UPDATING THE EVALUATION OF KENTUCKY IMPACT

Analyses of Selected Demographic, Service Delivery, and Outcome Data

Kentucky IMPACT at Year Ten

PROGRAM EVALUATION UPDATE:

Kentucky IMPACT at Year Ten

Fall, 2001

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Executive Summary

The Kentucky IMPACT program, an innovative system of care for children's mental health, grew out of the need for more community-based intervention with children who experience serious emotional and behavioral disabilities (SED). The program's history parallels (and in many ways has led) a national movement toward transforming systems of care for these children and their families. By the year 2000, Kentucky IMPACT had served over 12,000 children, providing a broad range of interventions in an integrated fashion, with strong emphasis on service coordination and collaboration among child-serving organizations and agencies. The present report seeks to update and extend prior evaluative efforts to document IMPACT's effectiveness and evolution. Some key findings are summarized below:

Demographics and Service Delivery

- IMPACT experienced dramatic growth as a system of care for children with behavioral and emotional disabilities from 1990 through 2000, leveling off (and possibly reaching service capacity) around 1999. Coincident with the initiation of IMPACT Plus, Kentucky IMPACT experienced its first decline in new enrollments, in part because some children were now served by this new funding system.
- Over this period, program entries outdistanced program exits, and demand exceeded capacity. Fortunately, intervention duration has gradually been decreased through targeted effort.
- Regional enrollment appears to have grown at similar rates over the past ten years.
- Girls are being served by IMPACT at increasing rates over time.
- There do not appear to be any differences in proportion of major diagnostic categories when pre-1995 enrollees are compared to post-1995 enrollees.
- Some clues to more subtle differences emerge when demographic and system-involvement variables are compared across these time frames. After 1995, enrollees appear to be less system-involved, less likely to have been hospitalized or dangerous to self, but more likely to come from a family with a history of mental illness.
- Proportionally, post-1995 enrollees exhibit less psychopathology at intake, as measured by the CBCL. However, the actual number of children with extreme scores on the CBCL actually increased until 1998, when a significant decline occurred.
- Thus, it appears that IMPACT's dramatic growth was fueled by the entry of more moderately involved children, but the system continues to serve a significant number of resource-intensive ("deep-end") children.
- Core elements of Kentucky IMPACT (service coordination and interagency collaboration) are common to almost all service recipients. It is of some concern that many children are not receiving special education (although it is possible some portion of this group may not need them). And, in-home clinical services do not appear to have increased over the past five years, consistent with the concern raised at year five.

Outcomes

- There is strong evidence that participation in Kentucky IMPACT continues to be associated with large reductions in behavior problems, despite emerging data that the severity of measured behavior problem scores on the CBCL

at intake has declined. Some of these gains are probably attributable to statistical regression, but the magnitude of gain argues for interpreting these as primary evidence that IMPACT continues to achieve its central goal.

- There is emerging evidence that participation in Kentucky IMPACT is associated with social competence gains. These gains may be partly attributable to concerted effort within the program to foster social competence through wraparound, after-school activities, and summer programming.
- Over time within Kentucky IMPACT, children are less likely to be placed in residential treatment or psychiatric hospitals, more likely to live with their parents, but also more likely to be placed in regular or therapeutic foster care.
- Similar to what was shown at year five, children served by Kentucky IMPACT appear to experience improved placement stability.
- In contrast with the earlier evaluation, families do not appear to be losing support from informal sources, and in fact show some slight increase in support from friendship networks. The IMPACT program continues to be a major source of support for families, however.
- IMPACT participation appears to be associated with both parental skill development and full participation in the service delivery process, consistent with a family-centered practice model.
- Global teacher ratings do not show significant changes in perception of overall educational achievement. Classroom performance and social interaction show little evidence of improvement in 1995-1999 data, but more recent trend lines are encouraging.
- The overall percent of IMPACT participants receiving a fully mainstreamed program (no special education services) declines in relation to time within the program, corresponding to an increase in both resource and self-contained placements.
- It appears that there is general consensus among participants that child improvement has occurred. Children and parents perceive the greatest amount of improvement, followed by service coordinators, and then teachers (who perceive the least improvement in the area of family adjustment).

Possible Influence of IMPACT Plus

- There are few differences in service delivery patterns between children who enter IMPACT prior to January, 1998 (pre-IMPACT Plus) and those who enter subsequently (post-IMPACT Plus).
- Trend data suggests that post-IMPACT Plus participants are less likely to receive overnight respite and crisis services, more likely to receive direct services such as after-school and summer programming. Once in the IMPACT program, both cohorts are about equally likely to be placed out of home.
- Overall rates of placement in residential treatment and hospitalization decline for both groups.
- Both cohorts experience similar patterns of exiting, including rates of successful program completion.
- For both internalizing and externalizing behavior, post-IP intake means are lower, indicating a lesser degree of perceived "psychopathology" at program entry. The difference is somewhat larger for externalizing behavior, but the differences appear to narrow over time. Both groups appear to make significant progress within their first two years in IMPACT.

- Social competence means for the post-IMPACT Plus cohort are higher than the corresponding means for pre-IMPACT Plus entrants, indicating that they appear higher functioning upon entry.

- Differences between pre- and post-IMPACT Plus cohorts may be indicative of subtle changes in the demographic complexion of the IMPACT program, as well as how the program is evolving at the level of service delivery.

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Section 1

Ten Years of Children's Mental Health Service

Kentucky IMPACT has completed its tenth year of operation. Earlier evaluations have documented considerable successes. At Year Ten, evaluation questions focus on who IMPACT is now serving, how the program has changed, and whether it continues to be effective.

The Kentucky IMPACT program, an innovative system of care for children's mental health, has a complex and rich history. A detailed chronological history of the initiation, growth, development of this program can be found elsewhere (see, for example, Illback, 1997; Illback & Neill, 1994; Illback, Nelson, & Sanders, 1997), but suffice it to say that the program grew out of an identified set of needs for more community-based intervention with children who experience serious emotional and behavioral disabilities (SED), consistent with national trends toward more responsive systems of care. A 1986 state-wide survey revealed, for example, that only 0.36% of the school-age population were identified as having behavioral disorders and were receiving special education services through their school districts. Many school districts reported that they identified and served no students in such programs). At the same time, dramatic increases occurred in psychiatric hospitalization and the use of Medicaid funds: from 74 beds in 3 facilities in 1980, at a cost of 4 to 5 million dollars, to 500 beds in 13 facilities in 1989, at a cost of 36 million dollars (Kentucky Cabinet for Human Resources, 1990). Guidance and collaboration at the state level were minimal; with minor exceptions, state regulations paralleled those at the federal level, and no procedures had been codified to operationalize existing policies.

Since 1990, the system of care for these children and their families has been transformed. By the year 2000, Kentucky IMPACT had served over 12,000 children, providing a much broader range of interventions in an integrated fashion, with heavy

emphasis on service coordination and collaboration among child-serving organizations and agencies.

In many ways, Kentucky IMPACT has served as a national model for broad-scale systems change in children's mental health. The present report seeks to update and extend the evaluative information base to document IMPACT's effectiveness and evolution.

Kentucky IMPACT: Program Features

Target Population and Program Eligibility

Children and youth served by this initiative are considered to have severe emotional disabilities. They exhibit a wide range of problems in home, school, and community settings that interfere with their ability to adjust, learn, and live successfully with their families. Eligibility for Kentucky IMPACT services is limited to children with SED who are in need of coordinated services. Kentucky's definition of Severe Emotional Diability is presented in Table 1. Children and youth are accepted for IMPACT services by a Regional Interagency Council (RIAC). Each RIAC may set criteria for setting priorities about children most in need of IMPACT services. Common criteria include multi-agency involvement and risk of out-of-home placement.

Table 1: Definition of Severe Emotional Disability

A "child with a severe emotional disability" means a child with a clinically significant disorder of thought, mood, perception, orientation, memory or behavior that is listed in the current edition of the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM-IIIR) and that:

(a) Presents substantial limitations that have persisted for at least one (1) year or are judged by a mental health professional to be at high risk of continuing for one (1) year without professional intervention in at least two (2) of the following five (5) areas:

(i) "Self-care", defined as the ability to provide, sustain, and protect his or herself at a level appropriate to his or her age; (ii) "Interpersonal relationships", defined as the ability to build and maintain satisfactory relationships with peers and adults; (iii) "Family life", defined as the capacity to live in a family or family type environment; (iv) "Self-direction", defined as the child's ability to control his or her behavior and to make decisions in a manner appropriate to his or her age; and (v)"Education," defined as the ability to learn social and intellectual skills from teachers in available educational settings; or

(b) Is a Kentucky resident and is receiving residential treatment for emotional disturbance through the interstate compact; or

(c) The Department for Community Based Services has removed the child from the child's home and has been unable to maintain the child in a stable setting due to behavioral or emotional disturbance; or

(d) Is a person under twenty-one (21) years of age meeting the criteria of paragraph (a) of this subsection and who was receiving services prior to age 18 that must be continued for therapeutic benefit.

Program Goals and Validity Assumptions

A number of systems-level goals drive the Kentucky IMPACT program. Several are stated in the legislative intent including: (1) increasing and improving available services, (2) coordinating services more effectively through interagency involvement and collaboration, (3) reducing dependency on psychiatric hospitalization, and (4) increasing the use of less restrictive community-based services. For children and families, a range of specific program goals include:

- Children and youth will demonstrate improvement in social competence and concomitant decreases in behavioral and emotional difficulties, in home, school, and community settings.
- Families will perceive increased social and professional support in their efforts to meet the needs of these challenging children and adolescents, and will perceive this support to be timely and responsive.
- Children and youth will be placed in less restrictive treatment environments, and their placements will become more stable over time.
- Professionals, parents, and the children themselves will perceive that they have made meaningful gains as a consequence of their involvement in the program.

Organizational Framework

Overall administration is provided by the State Interagency Council (SIAC), which is comprised of state-level administrators and a parent, who develop interagency policies, coordinate the tracking of clients, and attend to any gaps in services in the regions. The SIAC also oversees 18 Regional Interagency Councils (RIACs) and provides them with technical assistance. RIACs are located in each of Kentucky's 15 area development districts, with multiple RIACs in the two largest districts. Each RIAC includes core representation from mental health, social services, education, and district courts, as well as parents. The Department for Community Based Services (DCBS) regional manager or designee chairs RIAC meetings. Each RIAC provides a focus for interagency decisions regarding children and adolescents with severe emotional problems who need coordinated services from more than one agency, and who are at the greatest risk of hospitalization or residential placement. RIACs accept children into the IMPACT program, conduct regular interagency case reviews, and approve the use of **intensive family-based support services** (IFBSS; i.e., wraparound services that are tailored to the needs of the child and family).

In each region, at least one full-time staff person (known as a a **Local Resource Coordinator, or LRC**) coordinates the case review process, facilitates and evaluates referrals for review, and assigns cases to service coordinators, who are responsible for case management. The LRC also supervises service coordinators, makes

recommendations concerning the use of IFBSS dollars, and provides staff support to the RIAC.

Service Coordinators in each region are responsible for convening a child and family service team that includes key persons in the child's life who are willing to play a helpful role. Service coordinators also assist the child and family in gaining access to needed social, medical, educational, vocational, residential and other services. Their activities may include assessment, planning, linking, monitoring, accessing services, developing new services or programs, case coordination, individual advocacy, tracking and follow-up, enhancing natural support systems, and systems advocacy. The service coordination role is particularly important when children are at risk for hospital placement or when a child's plan for re-entry back into the community is being developed and implemented.

Service Components

IFBSS services are tailored to meet specific, individual needs of the child or family that cannot be met through other means. These may include in-school or in-home support, respite care, therapeutic foster care, fees for specialized camps and leisure or related activities. In essence, an individualized package of supportive resources are "wrapped around" the child and the family. Specially trained professionals coordinate, purchase, or provide those support services necessary to help children and youth live successfully at home and in the community. Examples of such services include crisis intervention and support, specialized evaluations, respite care, transportation, in-home attendants, specialized tutoring assistance with basic needs, and specialized skill development such as behavior management. Trained part-time support staff frequently are matched with target families to provide many of these services. Although the level of intensity is carefully and regularly monitored, these services may be continued for as long as they are deemed necessary and are cost effective.

For children whose needs cannot be met through community-based services, **Psychiatric Residential Treatment Facilities** (PRTFs) provide an alternative to traditional psychiatric hospitalization. PRTFs are regionally based, small, home-like residential treatment facilities that are geared toward intensive, short-term therapeutic care.

Many children within Kentucky IMPACT also receive more traditional child mental health services, such as individual or family therapy, and psychopharmacologic intervention. Additionally, a substantial portion receive special education and related services, and a range of other specialized services from various child-serving organizations. Key to the overall success of the intervention is the extent to which these services are integrated with IMPACT activities.

Kentucky IMPACT's System of Evaluation

A comprehensive evaluation plan is included in the legislative mandate. The Department for Mental Health (the lead agency responsible for program oversight) uses these data for program development and improvement. The Kentucky Legislature attaches particular importance to whether the program facilitates stable family life, productive school experiences, and positive relationships with friends and family members. The relative cost-efficiency of the program, in contrast with alternative treatment approaches (e.g., hospitalization), also is of concern.

Within IMPACT, program evaluation differs from the traditional research paradigm, in that evaluation is seen as a set of rigorous methods to make available technically adequate and relevant information about program processes and outcomes for program managers (e.g., funders, administrators, regional coordinators, service providers). This information leads to more sound decision-making at multiple levels as the program evolves. Therefore, program planning and evaluation are formative processes, contributing to ongoing program development and improvement, in addition to helping reach judgments about the worth of the program relative to its goals.

The evaluation plan addresses seven major program evaluation questions (Illback, 1991):

- To what extent do children and youth who participate in the Kentucky IMPACT program move toward less restrictive and more stable placements?
- To what extent do participants increase or improve their school/community adjustment and social skills or interpersonal relationships?
- To what extent does behavior change occur in children in family living settings?
- To what extent do families perceive that Kentucky IMPACT interventions are responsive, resulting in increased social support?

Data Gathering Schedule

Timeframe/Instrument		Person Responsible
Intake	Demographics	Service Coordinator
	Restrictiveness	
	Placement Stability	
	Child Behavior Checklist	Parent/caregiver
	Family Support	
	Family Empowerment	
	Classroom checklist	Teacher
One Year	Restrictiveness	Service Coordinator
	Placement Stability	
	Service Array/Intensity*	
	Progress evaluation*	
	Child Behavior Checklist*	Parent/caregiver
	Family Support	
	Family Empowerment Scale	
	Progress evaluation*	Child
Annually	Classroom checklist	Teacher
Exit		
Reason for Exit		Service Coordinator

Plus One Year instruments marked with asterisks (if possible)

- What is the nature and scope of programming and interagency collaboration for children served through the Kentucky IMPACT Plan? How does the service array change over the course of treatment? What are the relationships between the extent and nature of interagency collaboration and child/family outcomes?
- What factors predict a range of client outcomes in response to intensive, coordinated, community-based services? To what extent do persons close to the intervention perceive meaningful change in behavioral self-control, socialization, achievement, and overall family and school adjustment?
- Relative to alternative treatment approaches, how cost efficient are services delivered through the Kentucky IMPACT Plan?

Design and measures

Data addressing the above questions are collected on children accepted into Kentucky IMPACT at specific time periods, including intake, at various follow-up intervals, and upon exit from the program. These data describe the status of children in the program and the services provided to them and their families. Some of the instruments used by the evaluation were developed locally, while others are established and available commercially. A demographics and risk factor checklist was derived by an evaluation committee using common variables such gender, age, and child and family problem areas. These latter variables were derived from a literature review, and include overlapping dimensions such as poverty, family violence, divorce, abuse and neglect, school problems, and dangerousness.

The level of program restrictiveness is measured with an adaptation of instrument developed by the Pressley Ridge Schools (Hawkins, Almeida, Fabry, & Reitz, 1992) called the **Restrictiveness of Living Environments Scale** (ROLES). This measure places a range of settings on an equal interval scale where 1 is least restrictive (e.g., independent living) and 10 is most restrictive (e.g., jail). The original Pressley Ridge Scale was validated through a consensual approach using a panel of experts. Adaptation to the range of placements available to children in Kentucky was accomplished through a similar panel approach. For each time interval (e.g., one year), the number of days the child spent in a particular setting is recorded, and the ratio of this number in relation to the total number of days (e.g., 365) is multiplied by the restrictiveness score for that setting (e.g., jail=10.0). When all of the scores for that particular interval are summed, a total restrictiveness score for the interval is derived. On this form is also recorded the number of placements within the interval (1 representing no change in placements, 2 meaning the child has lived in 2 settings during the interval). This allows for the creation of a placement stability variable.

The **Child Behavior Checklist** (CBCL; Achenbach & Edelbrock, 1991) is an established measure. It is administered to the parent (the teacher version was dropped due to non-compliance) at the end of each interval, and yields an overall domain score for both social competence and child psychopathology (problems). Additionally, it yields subscores such as activities, social, and school (competence) and internalizing and externalizing behavior (problems). There is an extensive literature documenting the technical adequacy of this scale and its broad applicability. Less well known is the

Family Support Scale (Dunst, Trivette, & Jenkins, 1988), a 26-item social support measure that asks parents to rate the extent to which they receive helpful support in their ecology, including both informal (e.g., friends, neighbors, relatives), and formal (e.g., professional) support. This instrument is available in the public domain and has extensive validation data available.

Another locally developed set of instruments are the **Perceptions of Child Progress Scales**, which are designed to assess parent, service coordinator, teacher and child perceptions of progress. Using a five-point Likert scale (much worse through much improved), each respondent is periodically asked to rate progress in dimensions such as behavioral self-control, emotional adjustment, social skills/relationships, school achievement, school adjustment, and family adjustment. These data provide a degree of social validation for the more clinical and empirically-derived measures.

Developed and validated at the Regional Research Institute for Human Services at Portland State University, the **Family Empowerment Scale** was selected by the Outcomes Work Group as a measure of parents' attitudes, knowledge, and behavior regarding obtaining care for their child. Through a process of factor analysis, it has been abbreviated into a short-form comprised of 12 items representing three domains: parent advocacy for children and systems change; parent knowledge about working within the service system; and parent confidence about parenting and problem solving.

The **Educational Status Checklist** is a locally developed measure added to the evaluation in 1995. It was originally developed for use by the Family Resource and Youth Services Centers to obtain teacher perspectives on specific school- and classroom-related behaviors. It has the advantage of being shorter and easier for teachers to complete than other available measures (e.g, the Teacher's Report Form of the CBCL).

Finally, service coordinators periodically fill out a **Service Delivery Array Checklist** that specifies the services delivered within that time frame across domains such as case management, counseling/therapy, in-home services, support services, social services, education, therapeutic day services, crisis response, and residential services. Additionally, service coordinators are asked to rate agency involvement for each child serving system (high, moderate, low).

The evaluation plan relies on a repeated measures (quasi-experimental) design. Given that it was impractical to randomly assign eligible children to treatment and control groups, this design provides the greatest degree of experimental control and rigor possible. The design allows for exploratory analyses of relationships between process and outcome measures, and related hypothesis testing of the program's "logic model."

An automated management information system (MIS) has been designed and implemented at the Division of Mental Health to track and aggregate these data. In addition to providing relational databases for storage and retrieval of the information as

it is received from Local Resource Coordinators and Service Coordinators in each region, the MIS program has a flexible report generator that provides for statewide and regional summaries regarding important variables, reports due and past due reminders, and client profile summaries for the purposes of treatment planning and progress determination.

The first formal evaluation of Kentucky IMPACT took place in 1991 (Illback, 1991). At that time, data were available on 497 participants. A five-year evaluation was subsequently completed (Illback, Sanders, & Birkby, 1995) based on a larger data set (approximately 2,000 participants) and a more fully developed program. These findings can be viewed with greater confidence and in a more summative fashion as descriptive of many of the primary effects associated with the program. The present evaluation is essentially an extension and update of the Year 5 evaluation, with some focused evaluation questions to address issues that have emerged as the system of care has evolved.

It is important to note that not all IMPACT participants show up in the evaluation system for a variety of reasons. The following table shows the absolute number of new clients per entry year (derived from regional reports and reimbursement data), followed by the number and percent who appear in the evaluation system. Through Fiscal Year 2000, about 77% of the total IMPACT population is represented in these analyses. It should be noted that the percent of clients in the evaluation system is somewhat reduced in later years because clients who re-enter the program are counted in the new client column but are not considered a new client in the evaluation system. There does not appear to be any reason to believe that there are systematic differences between those who participate in evaluation and those who do not.

Fiscal Year	New Clients	New Clients in Evaluation System	% in Evaluation System
91	519	423	82
92	637	550	86
93	620	543	88
94	679	596	88
95	959	831	87
96	1397	771	55
97	1509	1110	74
98	1755	1310	75
99	2355	1787	76
00	2038	1696	83

Summary of the Year 5 Evaluation Findings

- Demographic data on program participants indicated that Kentucky IMPACT was primarily serving males with externalizing (i.e., acting-out) problems, early- to mid-adolescents, and individuals and families with multiple risks and problems.

- Service coordination was the most frequent service; about 80% of participants also received counseling, 40% received medication, and only about 10% received in-home clinical services. Extensive use was made of support services (e.g., respite and "wraparound" aides) and crisis response services, but only about half of the participants received special education. It was not clear to what extent those served in general education may require special education services and were unidentified, versus receiving appropriate education services in a mainstream setting.

- There was ample evidence of program success, with substantial gains in reduction of behavior problems, reduced utilization of psychiatric hospitals, increased placement stability, and increased family social support associated with the program.

- More modest gains were seen in social competence. Exiting patterns indicated that more than one-third of program participants exited having successfully completed the intervention, a notable figure given the nature of the population.

- There was also evidence that over time families become more isolated socially in their communities, raising questions about their potential dependence on the program and whether sufficient attention was being paid to transition issues.

- Substantial reduction was seen in the rate of psychiatric hospitalization of children, as compared with the year prior to entry into IMPACT. Accompanying this trend were moderate increases over time with respect to various forms of residential treatment. It was hypothesized that IMPACT served not only to prevent re-hospitalization but also as a sorting mechanism to determine which children might need longer term treatment in a residential facility (versus those who could benefit from community-based treatment).

- While parents, teachers, service coordinators, and children all endorsed general statements about positive change, there were some differences between the groups as to the extent of change

(teachers see less overall progress), and some agreement that school functioning was not evidencing the same degree of progress as family, behavioral, and relationship areas.

- Demographics, needs, and presenting risks at intake were found to be unrelated to change scores, a finding that contradicts conventional wisdom. This finding had implications for those who would argue for intentional efforts to select younger children, serve particular categories or "types" of children, or formulate weighted selection criteria.

- The fact that outcomes were uncorrelated with one another was interpreted as supportive of the use of multiple outcome measures, but also indicative of a larger challenge. Judging who has been "successful" is more complicated when multiple patterns of outcomes can accrue, because positive outcomes in one area may not necessarily be accompanied by changes in another.

- Four risk factor subgroups were derived from exploratory cluster analysis, with each evidencing certain prominent themes and issues, as follows: (1) antisocial behavior group; (2) distressed families group; (3) family violence and psychopathology group; and, (4) depressive and self-injurious group.

- Four clusters were also delineated for service delivery variables, labeled as: (1) high resource intensive group; (2) family-oriented service coordination group; (3) school-oriented service coordination group; and, (4) low-intensity, on-going service group.

- While a small portion of participants received a disproportionate amount of services, there were not different outcomes associated with membership in particular risk factor or service delivery subgroups. This was interpreted to imply that variables other than needs and amount of services account for change.

- Cluster analysis of agency involvement revealed three underlying dimensions: (1) overall level of agency involvement (high/low); (2) level of "wraparound" involvement (flexible support services) ; and, (3) social services/court involvement (probably a "proxy" for more coercive and less "family engaged" service programs and patterns). In contrast with need and service variables, group membership in relation to these dimensions was related to four of the five major outcome variables.

- Further analysis of these data led to the hypothesis that high "wraparound" involvement (use of flexible support services) was

positively associated with successful completion of the program, family support and social competence gains. These findings were especially heartening given the role of these services within the program model. It was hypothesized that qualitative process variables such as teamwork and collaboration, family engagement, and service coordinator style may have promise as predictors of success.

- An examination of average costs in the year prior to IMPACT enrollment, compared to the average cost for the first year of IMPACT involvement, revealed an approximate 36% reduction in average cost. Based on estimations of cost associated with various placements, it appeared that the average per child cost for services in the year prior to enrollment was $13,898. In contrast, the average cost of services for the first year of enrollment in IMPACT was $8,886, yielding an average savings of $5,012. Extrapolating to the total group of 1,971 children, this yielded a total savings of as much as $10 million.

- Savings generated by the IMPACT program (most of which were associated with reductions in hospitalization) were spread across all of the child-serving systems and conceptualized as reducing the stress that this population places on overall service capacity, thus allowing more children to be served more effectively.

Focus of the Year Ten Evaluation

Over the past ten years, IMPACT has generated an extensive and rich database that continues to illuminate important questions and issues, both about large-scale systems change and about individual and group outcomes. At year five, detailed analyses were accomplished to demonstrate that the program was accomplishing its objectives, and some exploratory analyses were completed to gain insight into some of the relationships between demographic, service delivery, and outcome variables.

At year ten, there is a continuing need to confirm that the program is accomplishing its objectives, but there are also some issues about how the program has evolved and changed that are of interest. The following questions focus the present evaluation:

- Does the program continue to achieve its intended outcomes? Have the patterns or degree of outcome attainment changed? What new outcome questions have emerged?

- In what ways has the program evolved and changed over time? Are there any systematic differences in the population now served by Kentucky IMPACT, as compared to the early years of the program? Have service delivery patterns changed over time?

- As a system of care for children with emotional and behavioral difficulties, what role does Kentucky IMPACT play and how has it changed in response to significant systemic changes such as the initiation of IMPACT Plus?

The present report is organized into sections. The section that follows (Section 2) describes global patterns seen within demographic and service delivery data over the ten year period. Section 3 highlights outcomes associated with participation in Kentucky IMPACT. Finally, exploratory analyses of some interesting changes within the data set coincident with the initiation of IMPACT Plus are considered in Section 4.

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Section

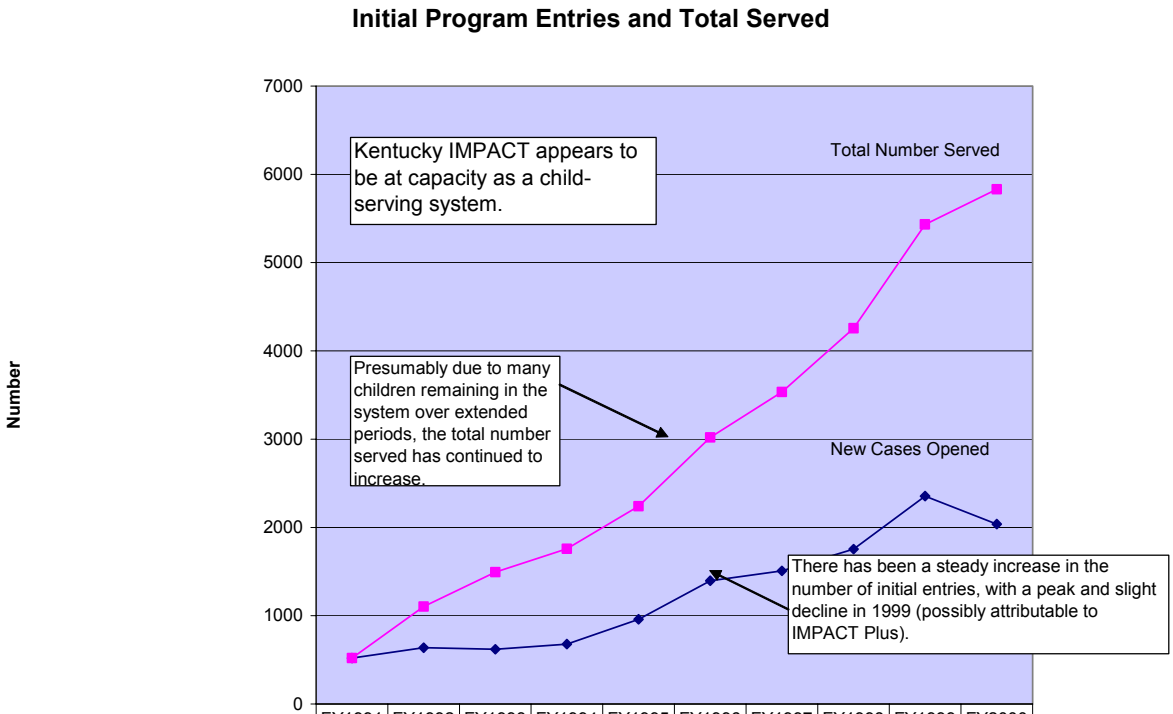
2

Demographic and Service Delivery Trends Over Ten Years

Program data for the ten-year period from 1900 to 2000 were examined to update what had been learned in 1995, and to determine if any systematic differences or trends could be detected to suggest that second five years of Kentucky IMPACT were different from the first five years. Particular reference was paid to demographic and service delivery data. Since a number of critical evaluation questions had already been answered at Year Five, some analyses were not repeated, but some new issues and questions were considered.

At the time of the five-year evaluation of Kentucky IMPACT, detailed analyses of demographic, service delivery, and outcome data were completed, as described in Section 1. Planning for the ten-year evaluation of the program began with the assumption that some analyses (e.g., exploratory cluster analysis) did not need to be repeated, but it was felt that major service delivery and outcome findings needed to be updated, primarily to insure that IMPACT remained effective. However, there was also a desire to expand and extend the prior evaluation, and address more specific questions about the program's evolution, and in particular its response to the initiation of IMPACT Plus (a Medicaid-funded parallel program) in 1998. In this context, global analyses of service delivery and demographics were completed comparing the 1990-95 data set with the 1996-2000 data set. Trends that emerged from this analysis were discussed in detail with a focus group comprised of state officials, program managers, and service providers. This section summarizes the trends that emerged, and speculates about their significance. The section that follows addresses program-related outcomes.

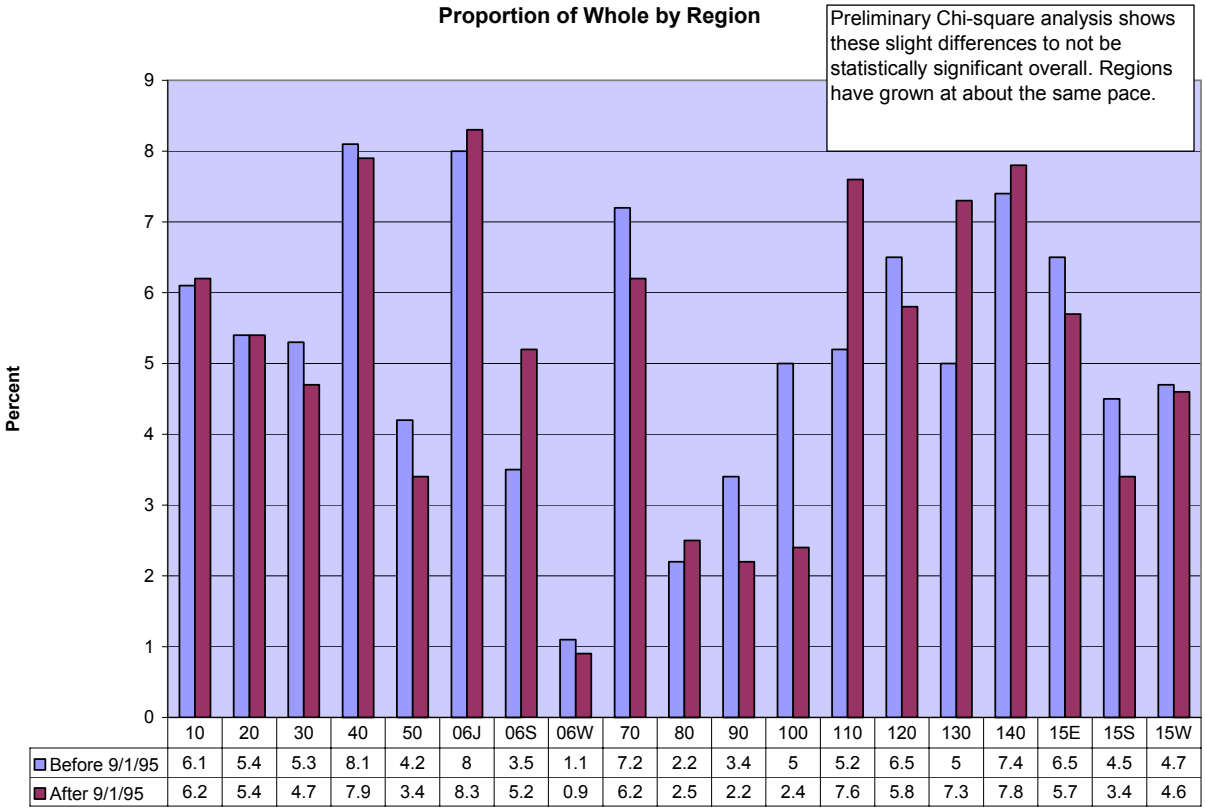
How Many Children and Youth Have Been Served Since 1990? What are the Patterns of Program Entry?



	FY1991	FY1992	FY1993	FY1994	FY1995	FY1996	FY1997	FY1998	FY1999	FY2000
New Cases Opened	519	637	620	679	959	1397	1509	1755	2355	2038
Total Children Served in Year	519	1102	1493	1757	2240	3020	3533	4257	5433	5831

Kentucky IMPACT has grown steadily over the ten years of its life, leveling off only in recent years in terms of new cases opened. In many ways, this rapid growth has placed a great deal of stress on this system of care, and as caseloads have increased, resources available at the individual level have diminished. It seems probable that IMPACT is at absolute capacity, absent new resources.

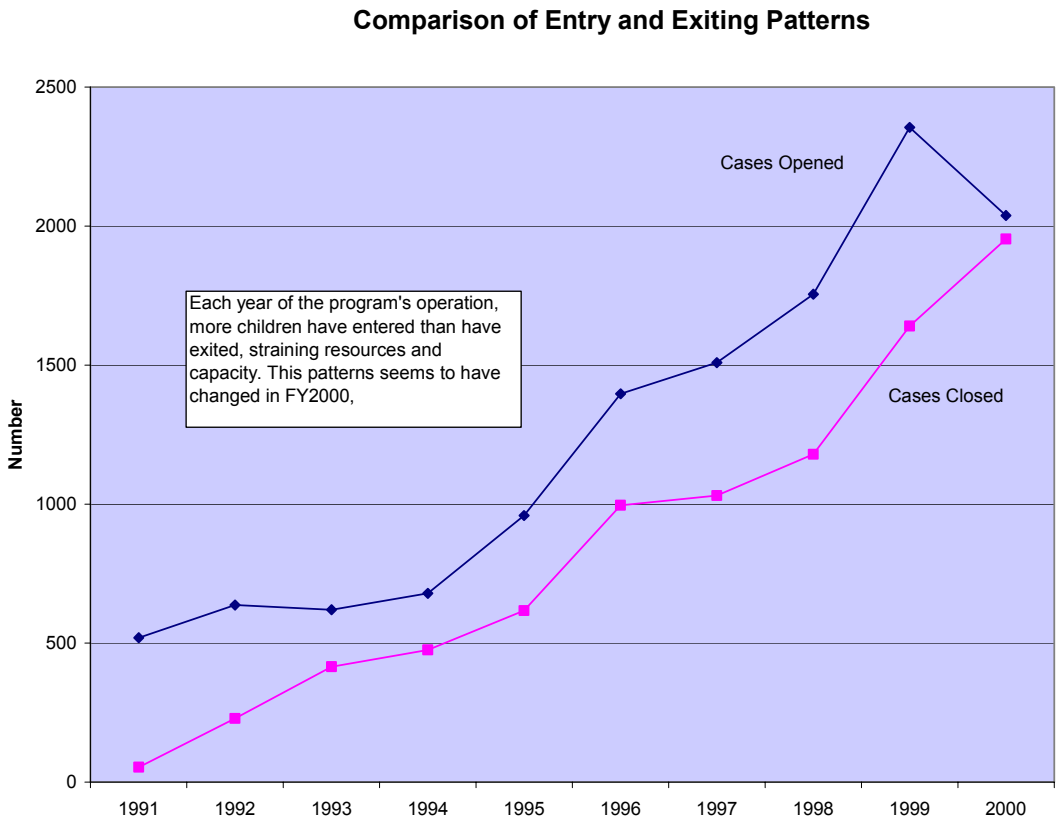
Have Children Entered the IMPACT System at an Equal Pace Across Regions? Has the Growth of the Program Been Relatively Consistent Across the State?



	10	20	30	40	50	06J	06S	06W	70	80	90	100	110	120	130	140	15E	15S	15W
Before 9/1/95	6.1	5.4	5.3	8.1	4.2	8	3.5	1.1	7.2	2.2	3.4	5	5.2	6.5	5	7.4	6.5	4.5	4.7
After 9/1/95	6.2	5.4	4.7	7.9	3.4	8.3	5.2	0.9	6.2	2.5	2.2	2.4	7.6	5.8	7.3	7.8	5.7	3.4	4.6

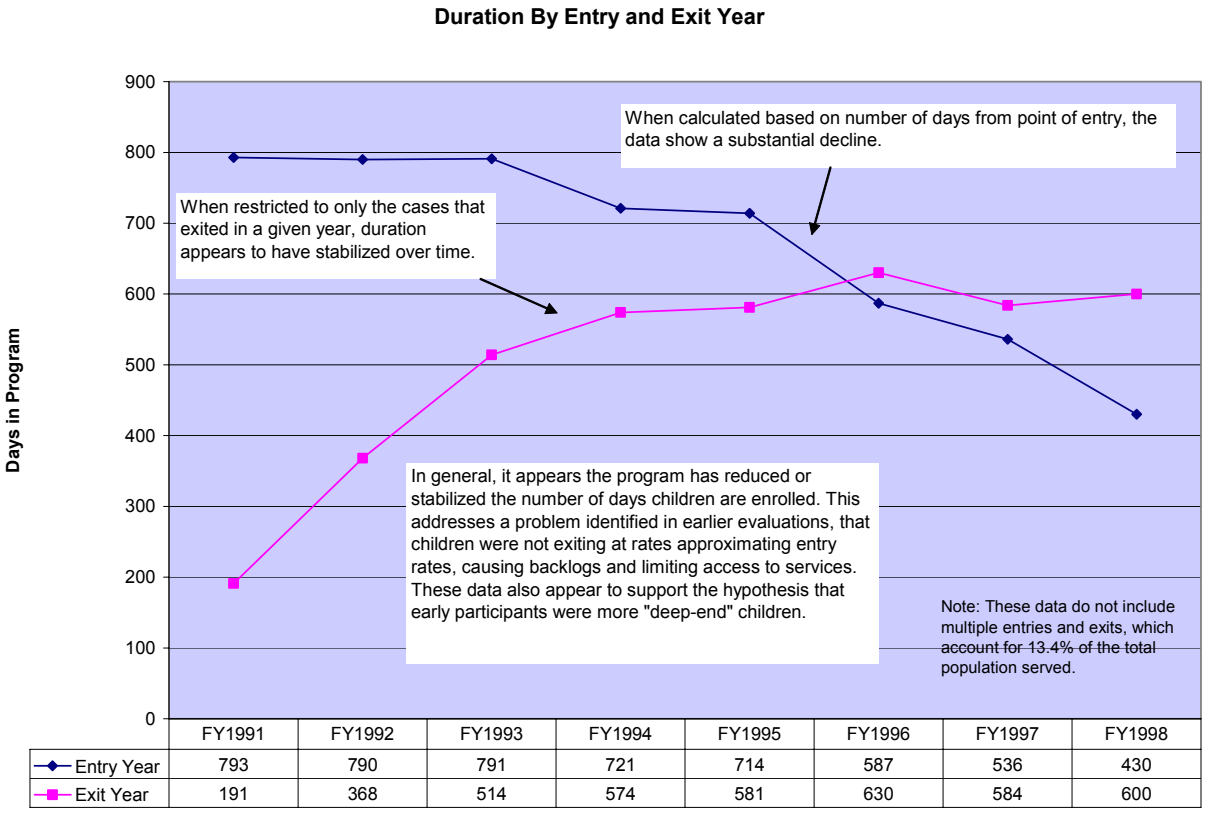
Comparing the first five years of the program to the second five years, each region's total number of participants is shown as a percentage of the total number of children in Kentucky IMPACT. In general it appears that, proportionally, regions have grown in the second five years at about the same pace and in the last five years served the number of children predicted by their first five years.

How Does Program Entry Compare with Program Exiting on a Year-By-Year Basis? Do Children Enter and Exit at About the Same Rates? Are There Any Changes in These Patterns?



From 1991 through 1999, program entries greatly outpaced program exiting. This meant that, over time, backlogs developed with wait lists in some region, as demand outdistanced capacity. A contributing factor was the length of time some children remained in the program (intervention duration), which even though it decreased was longer than initially predicted. The dramatic reversal of the above trend in 2000 may be a function of the initiation of IMPACT Plus, coupled with a recognition that IMPACT has reached its service capacity absent additional resources.

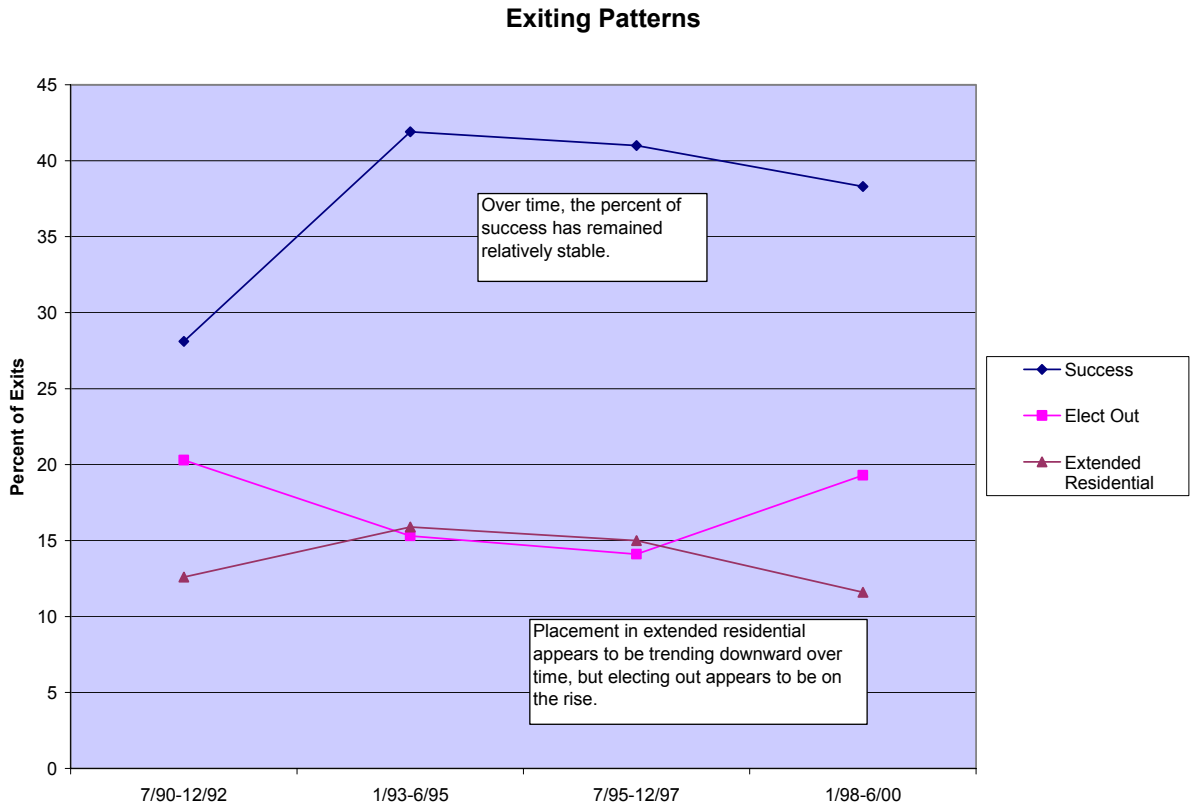
What Patterns Have Emerged in Terms of Intervention Duration Over Time? Are Children Spending Less Time in the Program?



	FY1991	FY1992	FY1993	FY1994	FY1995	FY1996	FY1997	FY1998
Entry Year	793	790	791	721	714	587	536	430
Exit Year	191	368	514	574	581	630	584	600

In the year five evaluation, concern was expressed that some children were remaining in the program indefinitely, possibly due to the severity of their needs, but also due to the lack of other community resources to address their needs. Efforts were made to develop local resources and reduce long-term dependency on IMPACT, given that it was not conceived as a life-long support program. These efforts appear to have paid off. It may be that over time IMPACT also became more sophisticated in making determinations about which children and youth are most likely to profit from the program, resulting in some of the more difficult-to-serve clients moving to other settings. It seems probable that the advent of IMPACT Plus will also reduce average intervention duration rates.

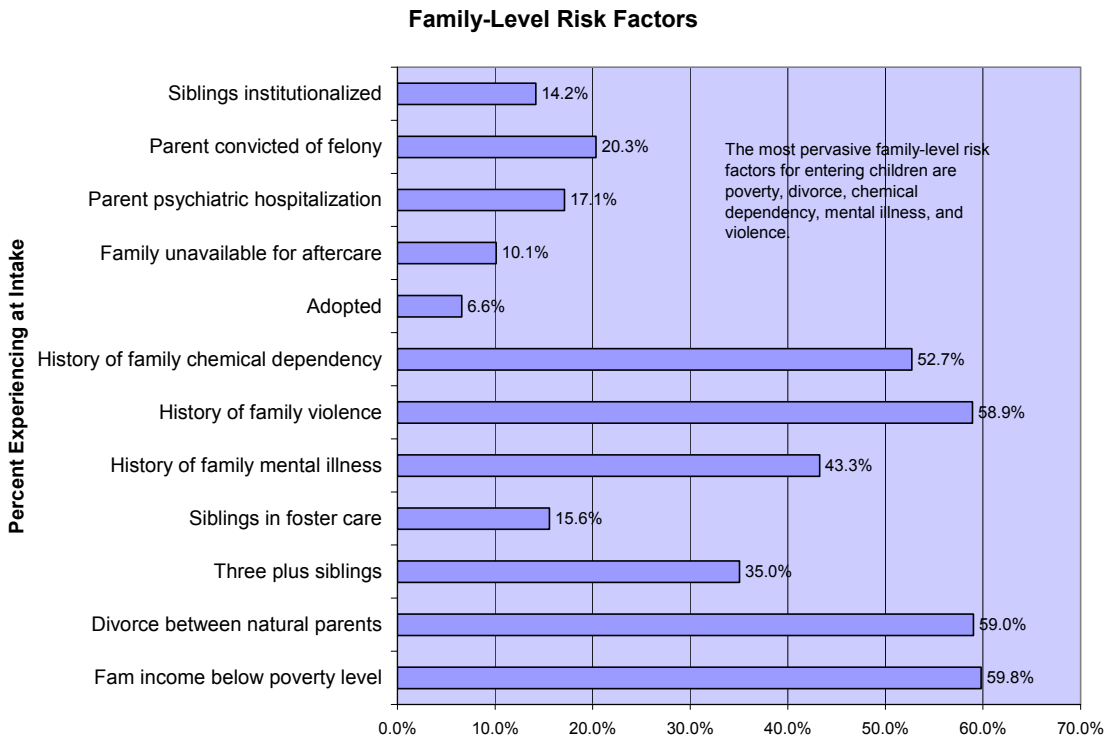
What Can Be Learned from Exiting Patterns and the Reasons Given for Exit from the Program? To What Extent Do Participants Exit the Program Having Successfully Completed the Intervention?



An analysis of trends over time was completed, breaking the ten-year interval into four parts. It appears that the percent who successfully complete the program rose after the first interval, and has remained fairly steady at between 35-40%. Given the complex needs of the population, and absent any clear national standard, this can be judged as a positive program accomplishment. It also seems positive that leaving for residential treatment is trending downward over time.

The trend toward electing out that appears in the fourth (most recent) interval, may be a function of the initiation of IMPACT Plus, in which some families left IMPACT but continue to receive a similar service array funded by Medicaid through IMPACT Plus.

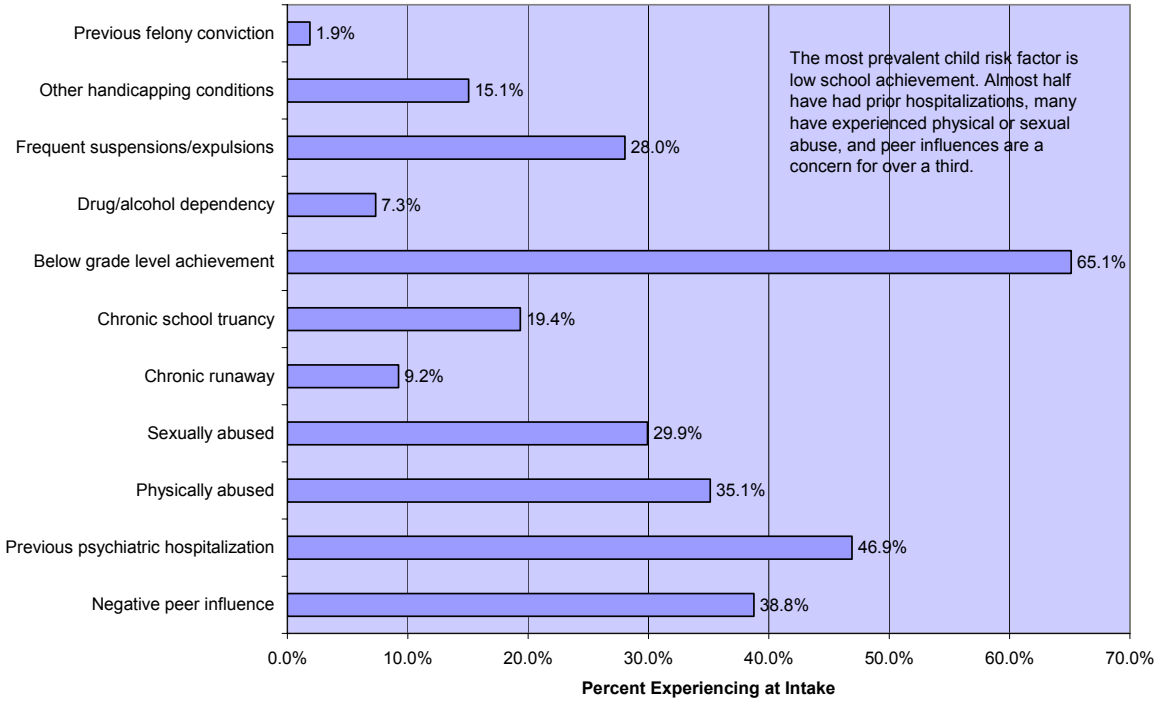
What Child and Family Risk Factors Are Present at Entry into Kentucky IMPACT?



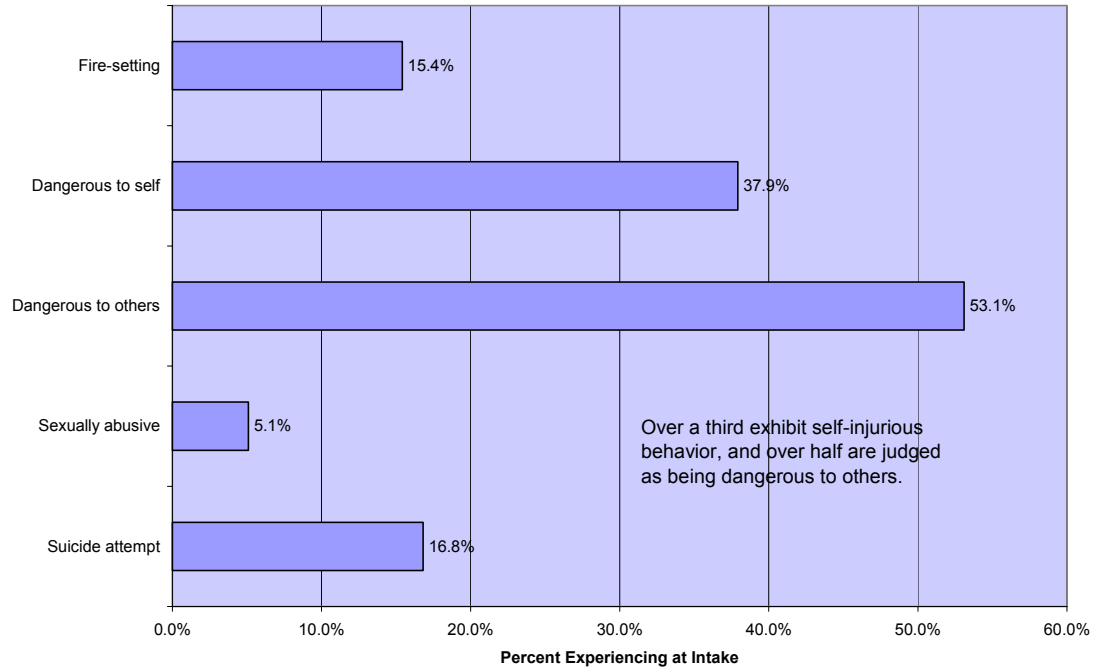
As seen in the graphs above and below, the population served by Kentucky IMPACT during the past ten years experiences multiple risks. There are some types of risk factors that are quite prevalent across the population, including socioeconomic status, history of family mental illness, violence, chemical dependency, and divorce. Children served are often described as experiencing low school achievement, a history of abuse and neglect, negative peer influences, and prior psychiatric hospitalizations. Dangerousness to self and others is also quite common.

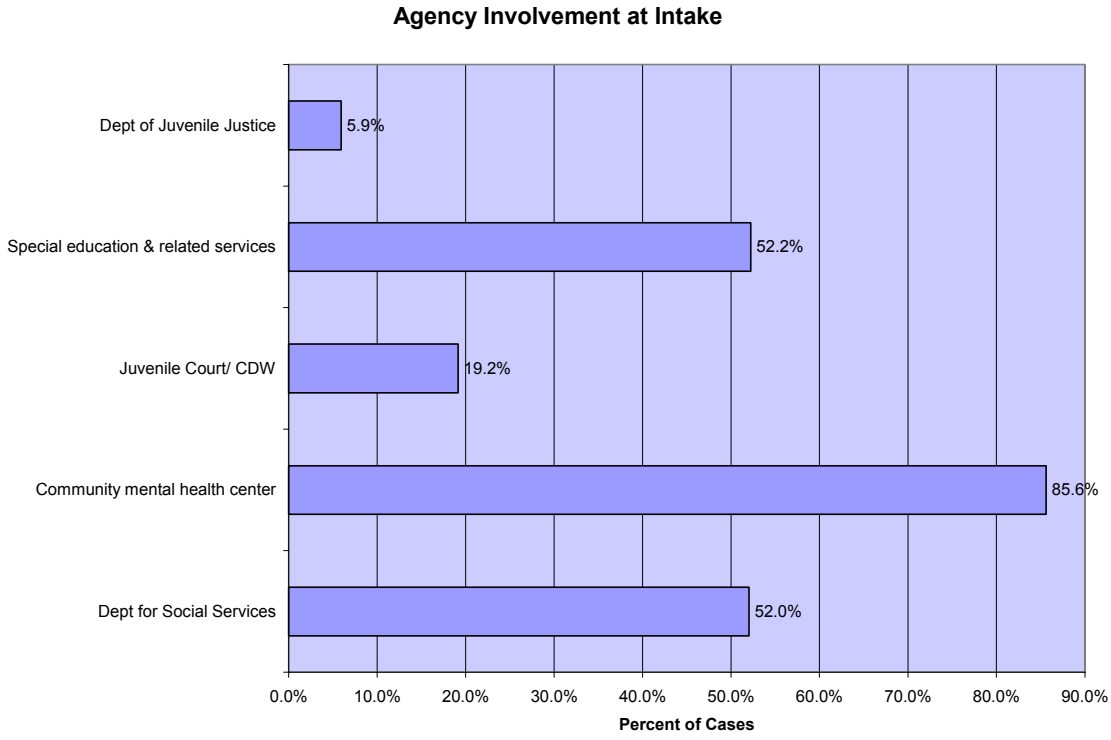
The data for agency involvement at intake (see page 21) are interesting in that only half are receiving special education and social services, but most are already involved in the mental health system (as might be expected). The numbers for the Department of Juvenile Justice undoubtedly are somewhat low, given that DJJ was not in existence when IMPACT began.

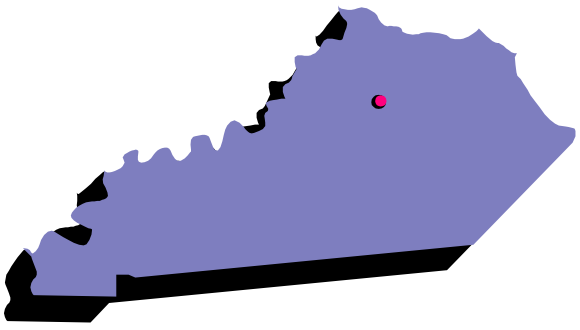
Child-Level Risk Factors



Dangerousness Risk Factors

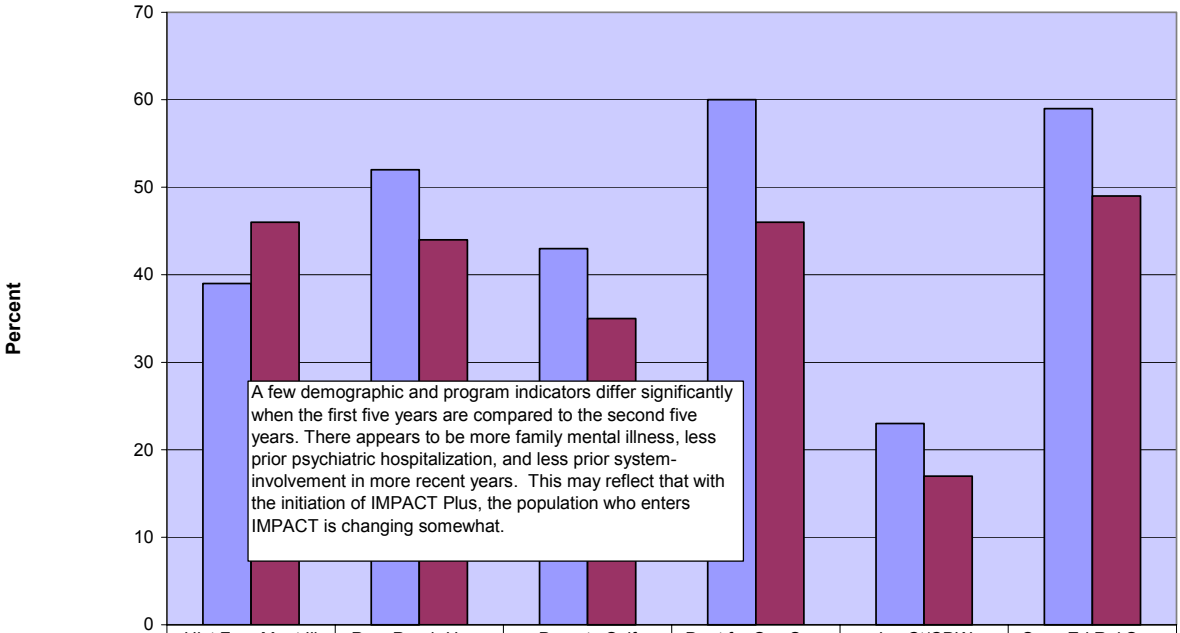



Agency Involvement at Intake
Dept of Juvenile Justice
5.9%
Special education & related services
52.2%
Juvenile Court/ CDW
19.2%
Community mental health center
85.6%
Dept for Social Services
52.0%
0.0%
10.0%
20.0%
30.0%
40.0%
50.0%
60.0%
70.0%
80.0%
90.0%
Percent of Cases



Has the Population Served By Kentucky IMPACT Changed Over Time? Are There Any Differences in Risk Factors and Agency Involvement at Intake That May Be Instructive?

Statistically Significant Demographic Changes at Entry

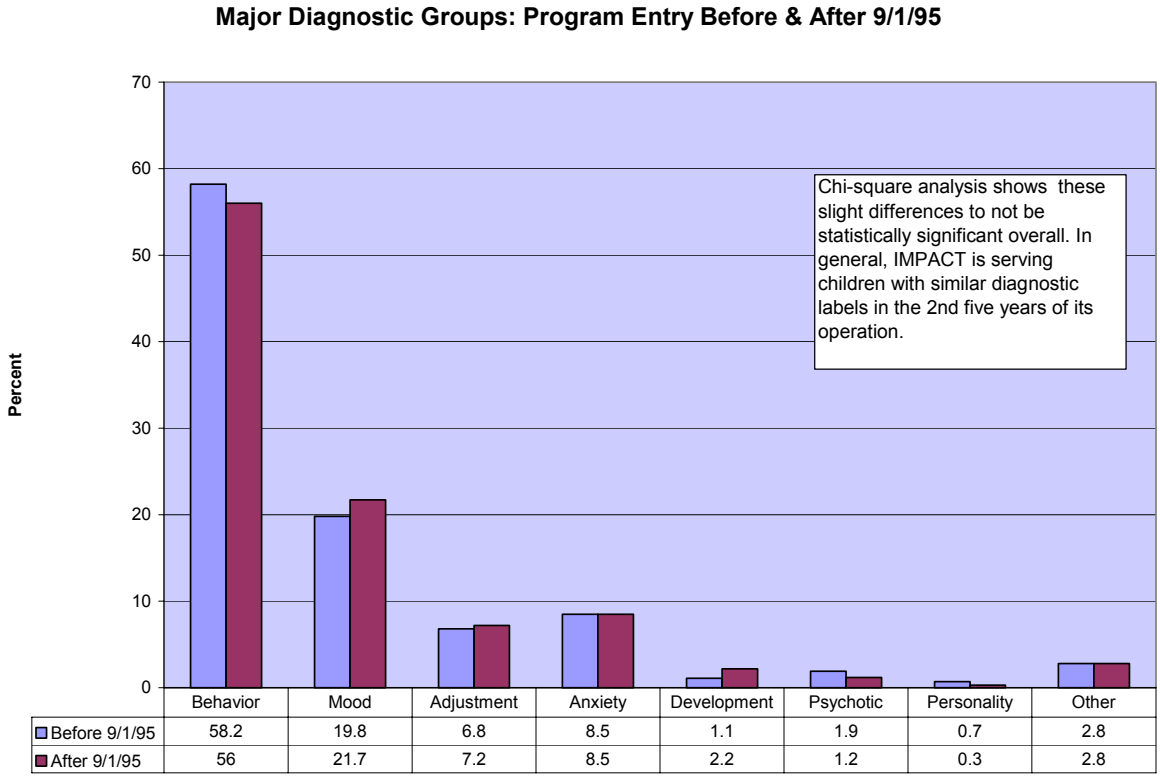


	Hist Fam Ment Ill	Prev Psych Hosp	Dang to Self	Dept for Soc Serv	Juv Ct/CDW	Spec Ed Rel Serv
Before 9/1/95	39	52	43	60	23	59
After 9/1/95	46	44	35	46	17	49

For the most part, comparing the first five years of the program to the second five years, risk factors have been stable. The dominant pattern is that these are children and families with multiple risks, necessitating an integrated and collaborative approach. It does appear, however, that over time (and especially since IMPACT Plus), the children entering the system are less likely to have been hospitalized or to exhibit self-injurious behavior. The increase in family mental illness may be related to the "de-stigmatization" of mental illness that is occurring throughout society, and specifically within communities served by IMPACT.

More interesting, perhaps, are data suggesting that children entering the system are less likely to have been involved with DCBS, the juvenile justice system, or special education. These factors probably reflect large-scale system trends, not least the development of IMPACT Plus and the Department for Juvenile Justice (DJJ), but also the decreasing number of children in the state's care with the advent of increased emphasis on adoption and kinship care.

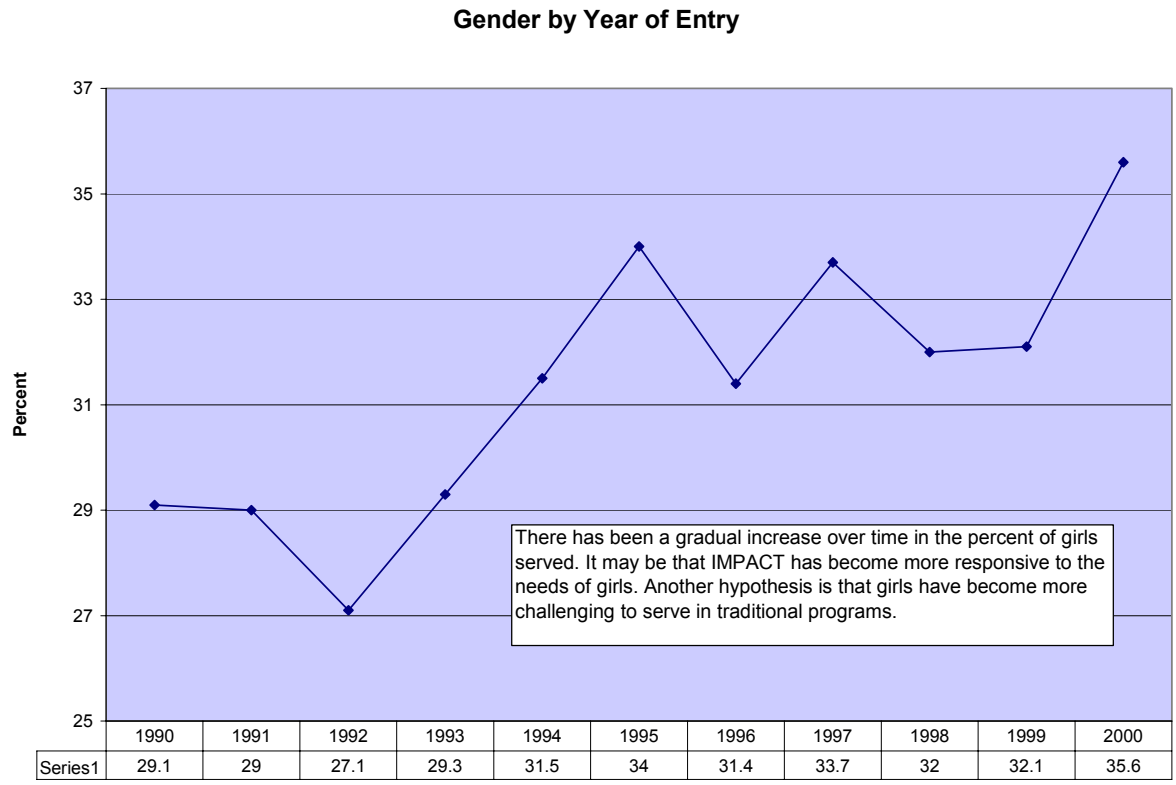
What About Diagnosis at Intake? Are There Any Significant Differences Over Time?



	Behavior	Mood	Adjustment	Anxiety	Development	Psychotic	Personality	Other
Before 9/1/95	58.2	19.8	6.8	8.5	1.1	1.9	0.7	2.8
After 9/1/95	56	21.7	7.2	8.5	2.2	1.2	0.3	2.8

Broad diagnostic categories do not appear to be as sensitive to changes in the complexion of IMPACT's demographics.

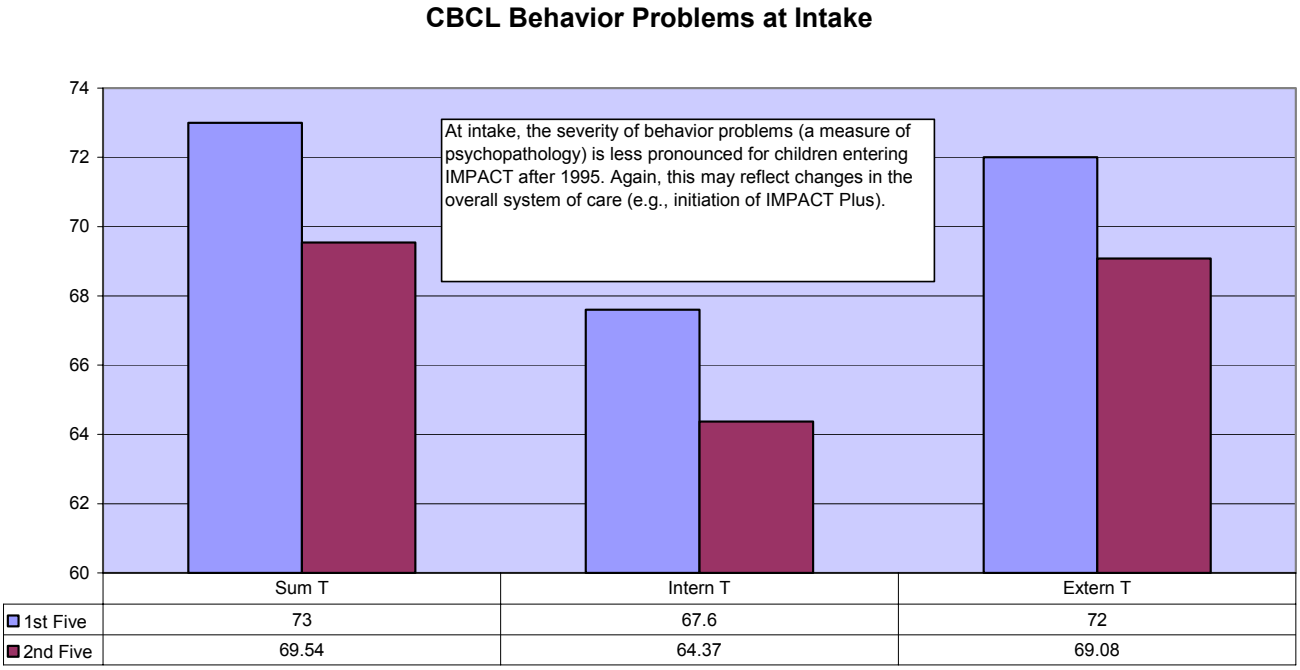
Has the Gender of IMPACT Participants Changed Over Time?



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Series1	29.1	29	27.1	29.3	31.5	34	31.4	33.7	32	32.1	35.6

Clearly, the relative proportion of girls served by the IMPACT system is increasing. This may be due to a variety of factors, including increased sensitivity to the issues and needs of girls within society and across child-serving systems that may refer children for service. However, it has also been speculated that perhaps girls are coming to the attention of IMPACT more, not due to increased sensitivity to internalizing problems more commonly experienced by females, but rather because girls are engaging in more externalizing behavior that is problematic in home and school environments.

Has Severity of Need (Extremity of CBCL Scores) at Intake Changed Over the Life of the Program?

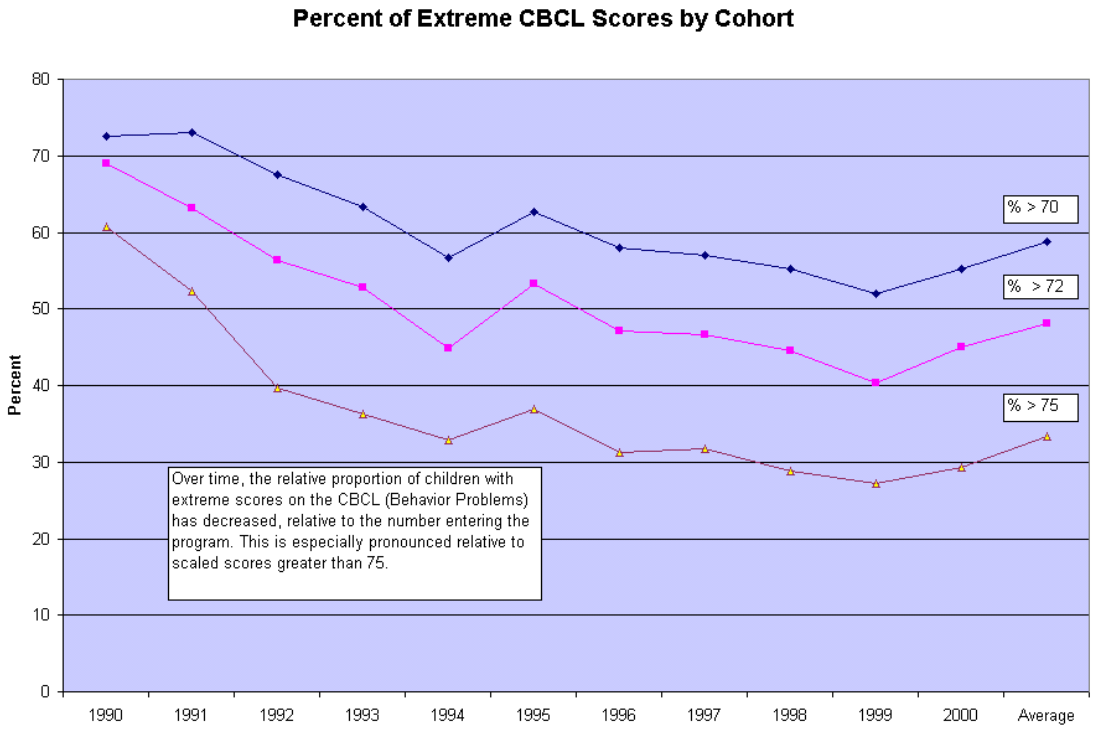


	Sum T	Intern T	Extern T
1st Five	73	67.6	72
2nd Five	69.54	64.37	69.08

The Child Behavior Checklist (CBCL) is given at intake, and at each successive year of program participation. It yields a mean score of 50, with a standard deviation of 10, so a score of 70, for example, would be two standard deviations above the mean (or quite extreme). The CBCL is probably the most reliable single indicator of the extent to which a given child's needs are considerable, and is used for this analysis to determine case severity.

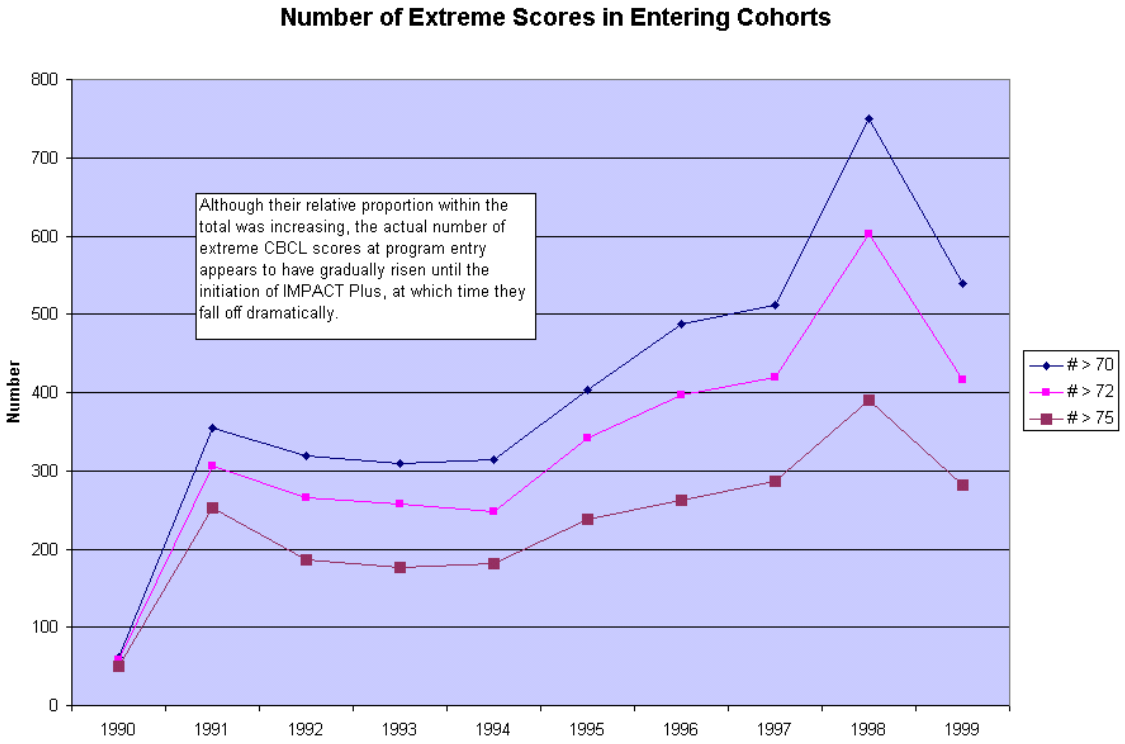
An examination of global CBCL scores at intake, comparing average scores from the first five years with scores from the second five years, reveals an interesting trend. It appears that, overall, the average of extreme scores on the CBCL was greater within the first five years than within the second five years. This seems consistent with the hypothesis that in the first few years of the program, there was a greater tendency to serve "deep end" (or the most challenging, difficult-to-serve) children. It was speculated by focus groups that IMPACT has perhaps gotten more efficient at screening for those children who are most likely to benefit. Also, some systemic changes may account for this apparent trend (IMPACT Plus, development of DJJ resources).

Is There More Detailed Evidence that Extreme Scores on the CBCL Have Decreased Over Time Within Kentucky IMPACT?



The above chart provides further evidence demonstrating that overall extreme score rates have been declining over time. It shows the percent of cases with CBCL behavior problem intake scores above 70, 72, and 75 respectively. The trend lines all decrease substantially from the early years of the program. However, it should also be considered that during this time the number of children entering IMPACT was increasing dramatically, as has been seen. This leads to a follow-up question as to whether the actual number of extreme scores may not have actually remained stable or increased, whereas only the proportion of extreme scores in relation to the whole decreased over time

Has the Actual Number of "Deep-End" Children Been Declining, or Is IMPACT Just Serving More Children with Moderate Needs Over Time?



When calculated in absolute terms (i.e., when the actual numbers served are shown), these data appear to take on a very different meaning. It appears that from 1991 through 1998, the actual number of extreme scores was on the rise. However, a dramatic decrease is seen in 1999, and a similar trend is in evidence for 2000, but these data are not shown because they are not complete.

In light of the above, it appears that IMPACT actually continues to serve many of the most challenging children and youth, but that the expansion of the program has tended to include more moderately involved children. Quite possibly, the system has reached its capacity to serve the most challenging, and learned which children are most likely to profit from the program model. This pattern is especially interesting in light of earlier speculation that a small number of the most challenging clients were highly resource-intense, leading to crisis-driven case management and skewed resource allocation.

The significant drop-off in 1999 corresponds with the initiation of IMPACT Plus, and also appears to correlate with the leveling of overall enrollment in IMPACT.

To What Extent Do Participants in Kentucky IMPACT Receive Various Clinical, Educational, Medical, Rehabilitative, Social, and Related Services Within the First Year?

Service Category	% Receiving
Case Management	
Service coordination	94
Interagency/Tx planning	81
Community resource devel.	28
Referral to other ag./facil.	36
Counseling/Therapy	
Eval./Tx planning	40
Individual counseling	80
Group counseling	20
Family counseling	38
Psychotropic medication	52
In-Home Services	
Home-based clinical services	14
In-home crisis intervention	7
In-home training	10
Support Services	
Wraparound aide	48
Overnight respite	7
Parent support/education	12
Tutor	6
Social Services	
DCBS	29
DJJ	10
Education Services	
Regular education	45
Spec. ed. resource room	30
Spec. ed. self-contained	23
Day treatment	6
Homebound	3
Indiv. counseling in school	17
Group coun. in school	10
Therapeutic Day Services	
After-school educ./recreation	15
Summer program	20
Crisis Response Services	
Emergency evaluation	5
Crisis overnight care	3
Residential Services	
Foster care	12
Emergency shelter	3
Residential treatment	9
Hospitalization	7

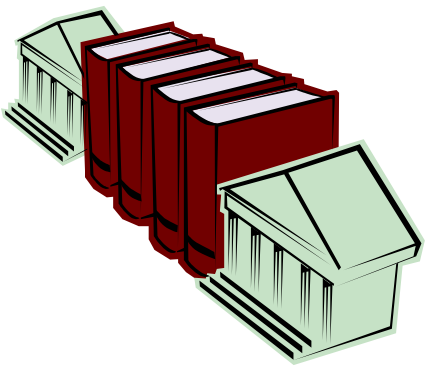
The most common services (received by most participants) appear to be service coordination, interagency treatment planning, and individual counseling/therapy. One-third to one-half are referred for additional services, receive psychotropic medication, have a wraparound aide, and/or receive family counseling. A little more than half receive special educational services.

On the positive side, it appears that the core elements of Kentucky IMPACT (service coordination and interagency collaboration) are borne out in terms of service delivery patterns. Relative rates of out-of-home care remain low. It remains of some concern that many children are not receiving special education (although it is possible some portion of this group may not need them). And, in-home clinical services do not appear to have increased over the past five years, consistent with the concern raised at year five.

Summary

- IMPACT experienced dramatic growth as a system of care for children with behavioral and emotional disabilities from 1990 through 2000, leveling off (and possibly reaching service capacity) around 1999. Coincident with the initiation of IMPACT Plus, Kentucky IMPACT experienced its first decline in new enrollments, in part because some children were now served by this new funding system.
- Over this period, program entries outdistanced program exits, and demand exceeded capacity. Fortunately, intervention duration has gradually been decreased through targeted effort.
- Regional enrollment appears to have grown at similar rates over the past ten years.
- Girls are being served by IMPACT at increasing rates over time.
- There do not appear to be any differences in proportion of major diagnostic categories when pre-1995 enrollees are compared to post-1995 enrollees.
- Some clues to more subtle differences emerge when demographic and system-involvement variables are compared across these time frames. After 1995, enrollees appear to be less system-involved, less likely to have been hospitalized or dangerous to self, but more likely to come from a family with a history of mental illness.

- Proportionally, post-1995 enrollees exhibit less psychopathology at intake, as measured by the CBCL. However, the actual number of children with extreme scores on the CBCL actually increased until 1998, when a significant decline occurred.
- Thus, it appears that IMPACT's dramatic growth was fueled by the entry of more moderately involved children, but the system continues to serve a significant number of resource-intensive ("deep-end") children.
- Core elements of Kentucky IMPACT (service coordination and interagency collaboration) are common to almost all service recipients. It is of some concern that many children are not receiving special education (although it is possible some portion of this group may not need them). And, in-home clinical services do not appear to have increased over the past five years, consistent with the concern raised at year five.



Section

3

Evidence of Change Associated with Participation in IMPACT

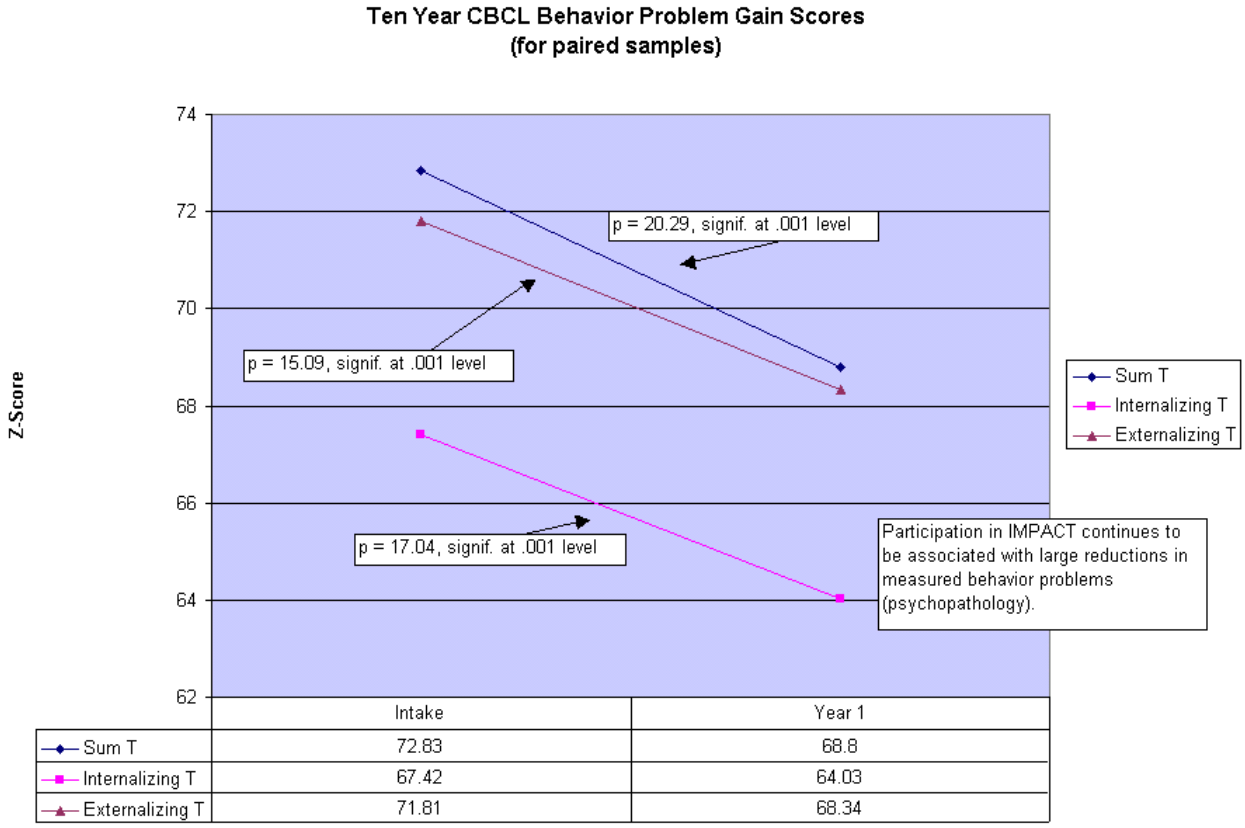
The IMPACT Evaluation System tracks multiple program-related outcomes such as severity of behavior problems, social competence, placement stability, family support and empowerment, and classroom-based performance. This section reviews and updates Kentucky IMPACT evaluative data for the ten year period.

Evaluations of large-scale, integrated service programs have been challenged by the recognition that responses to these complex intervention systems are not unitary. That is, children and families who experience complex and diverse difficulties may change in a variety of ways, and no one instrument or outcome measurement is likely to capture these subtle changes. Therefore, a multi-method, multi-measure approach has been used to describe change in a variety of areas of functioning.

This section considers evidence from the IMPACT evaluation system of positive change in terms of: (1) reduction of behavior problems, (2) increase in social competence, (3) decrease in placement restrictiveness, (4) stability of placement, (5) sources of and family satisfaction with social support (informal and formal), (6) family enablement and empowerment within the service system, (7) school-based behavioral and social gains, and, (8) overall perceptions of change by key informants (social validity measures).

Is IMPACT continuing to achieve substantial reductions in behavior problems on the CBCL (the most reliable measure of psychopathology)?

Confirming the same pattern as was seen at Year Five, there appears to be strong evidence that participation in Kentucky IMPACT continues to be associated with large reductions in behavior problems, as measured by the CBCL. This is the case despite emerging data (cited earlier) that the severity of measured behavior problem scores on the CBCL at intake has declined. Although some of these gains are probably



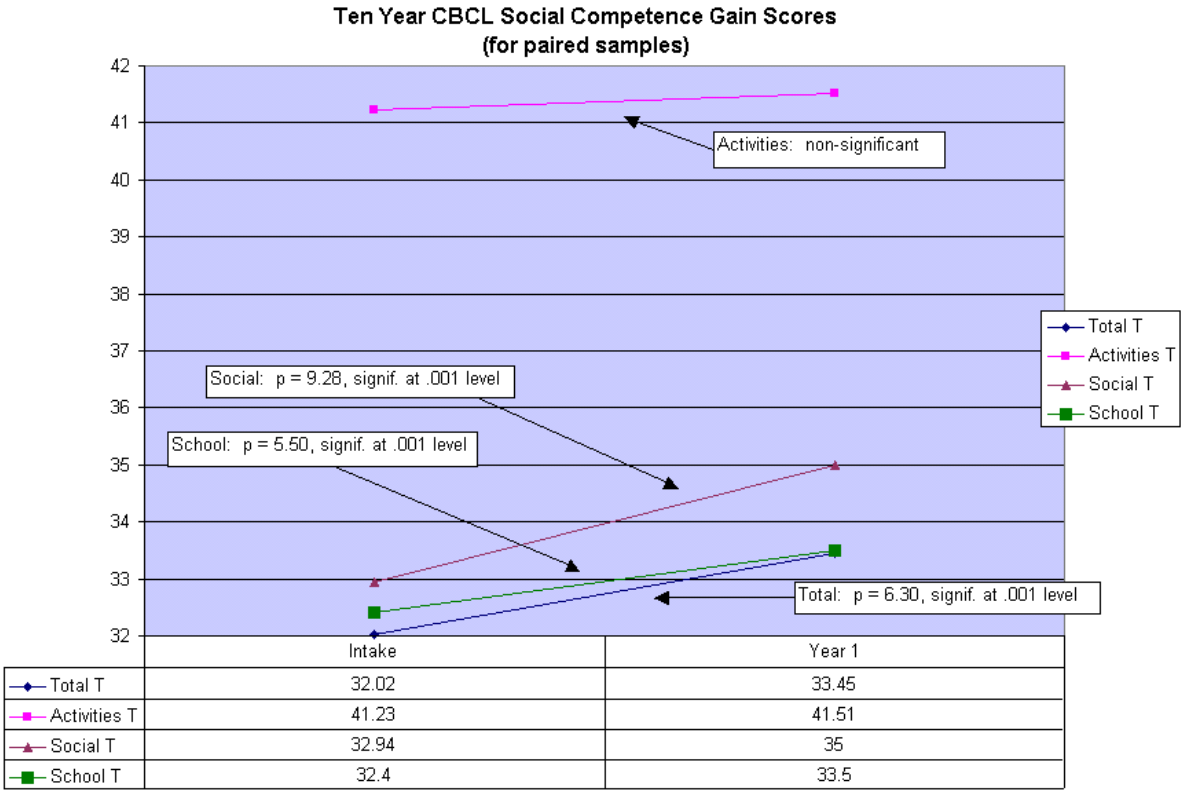
attributable to statistical regression to the mean (an artifact associated with extreme scores), the magnitude of gain argues for interpreting these as primary evidence that IMPACT continues to achieve its central goal.

A repeated measures multiple analysis of variance (MANOVA) was also completed, re-confirming the strength of the above findings.

		Means			F	
	N	Intake	1 year	2 years	1st year	2nd year
Sum	625	73.21	69.20	68.45	171.6***	28.7***
Internalizing	626	67.46	63.78	63.07	110.2***	19.1***
Externalizing	626	72.16	68.72	68.12	106.8***	21.1***

Significance: * .05 level, ** .01 level, *** .001 level

Is There Any Evidence of Sustained Gains in Social Competence on the CBCL?



	Intake	Year 1
Total T	32.02	33.45
Activities T	41.23	41.51
Social T	32.94	35
School T	32.4	33.5

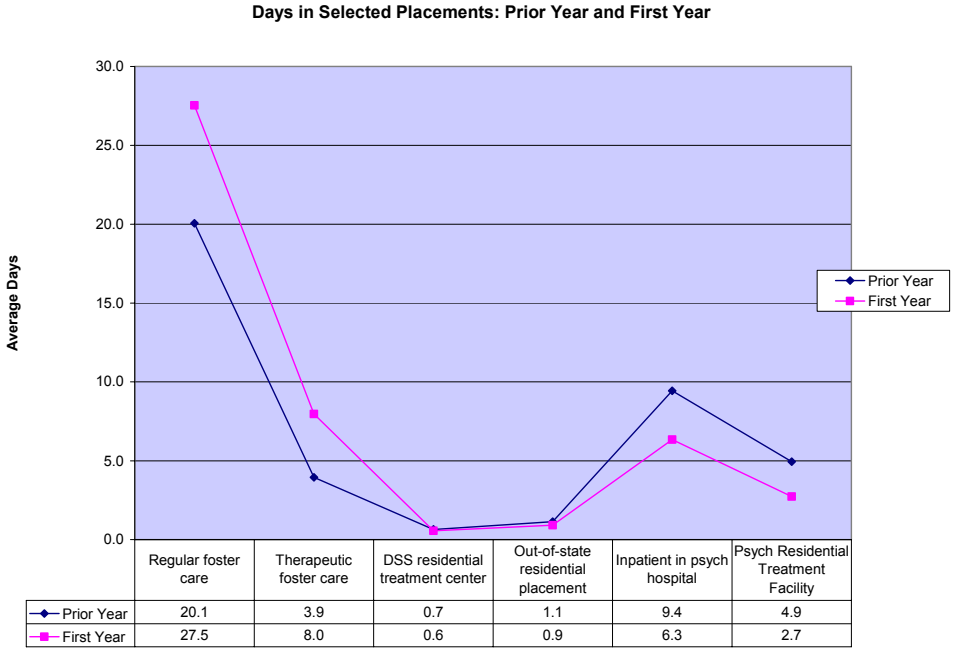
In contrast with earlier evaluations, there appears to be emerging evidence that participation in Kentucky IMPACT is associated with social competence gains (as perceived by parents on the CBCL). Although not as strong as that seen in Behavior Problems, Social and (to a lesser extent) School domains show statistically significant gains over time. Notably, Activities is not significant, but this is probably because the scores at intake were higher. These gains may be partly attributable to concerted effort within the program to foster social competence through wraparound, after-school activities, and summer programming.

A repeated measures MANOVA (below) is consistent with this finding.

		Means			F	
	N	Intake	1 year	2 years	1st year	2nd year
Total	281	32.61	33.62	33.79	4.9*	1.1
Activity	551	40.69	41.62	41.08	0.9	5.0*
Social	482	33.47	35.23	36.00	30.3***	2.0
School	343	32.94	33.75	33.63	2.4	2.0

Significance: * .05 level, ** .01 level, *** .001 level

Are Children Who Participate in Kentucky IMPACT Likely to be Placed in Less Restrictive Settings, Compared to the Year Prior to Program Entry?



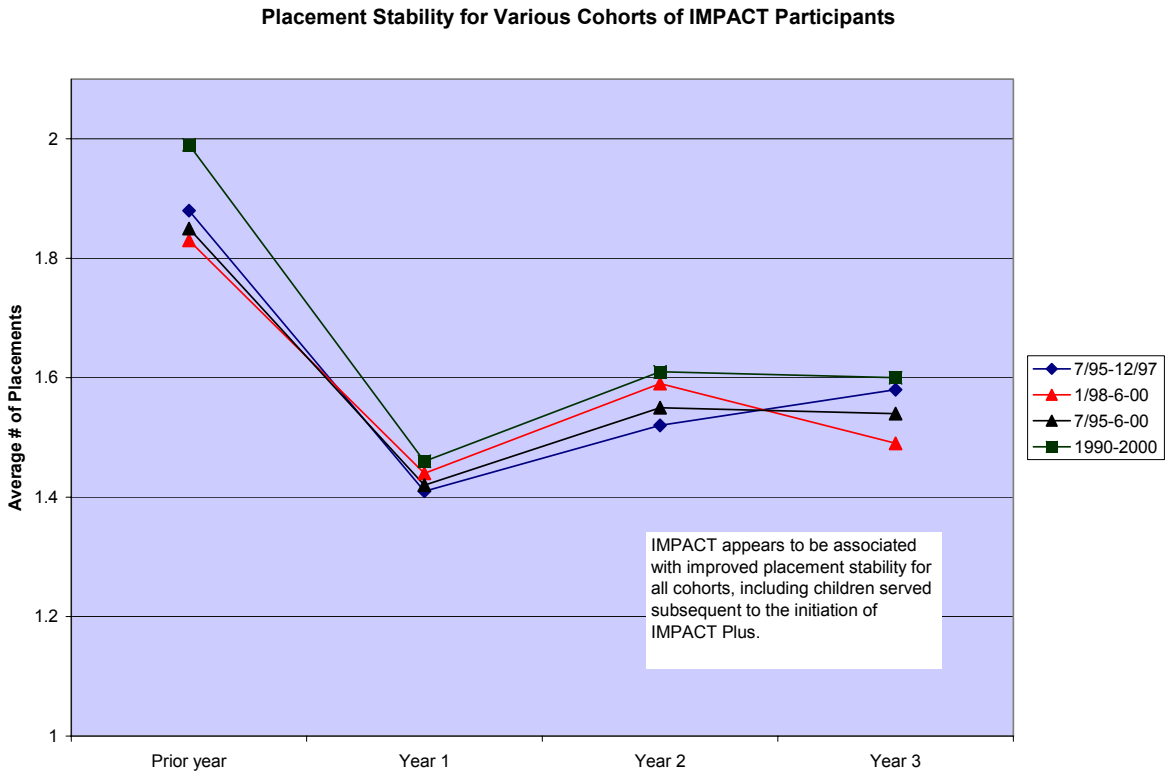
	Regular foster care	Therapeutic foster care	DSS residential treatment center	Out-of-state residential placement	Inpatient in psych hospital	Psych Residential Treatment Facility
Prior Year	20.1	3.9	0.7	1.1	9.4	4.9
First Year	27.5	8.0	0.6	0.9	6.3	2.7

For this analysis, the number of days each IMPACT child spent in a variety of settings was calculated for the year prior to program entry and for the first year of IMPACT service. This was then divided by the total number of children served to establish a program-wide average. At year five, a variety of other analyses were conducted on these data, but the present analysis was designed primarily to ascertain trends within the data and re-confirm prior findings.

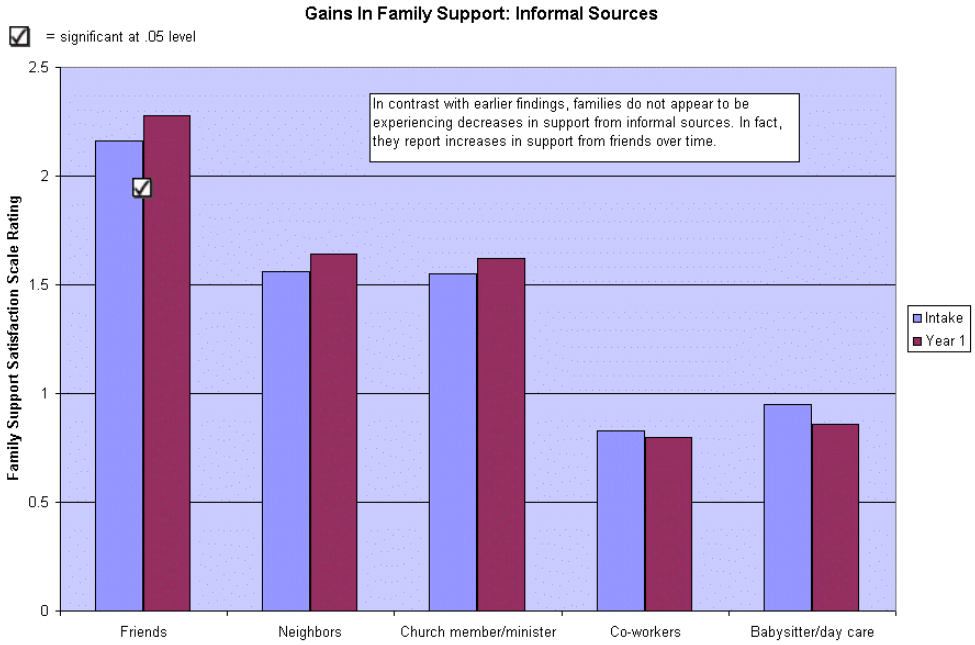
It appears that over time within Kentucky IMPACT, children are less likely to be placed in residential treatment or psychiatric hospitals, more likely to live with their parents, but also more likely to be placed in regular or therapeutic foster care. This pattern appears to represent a change from what was occurring at Year Five, in that residential care was then showing an increase, but foster care was level. Possibly, the change is reflective of the system of care moving toward more community-based placements, including foster care alternatives to residential treatment.

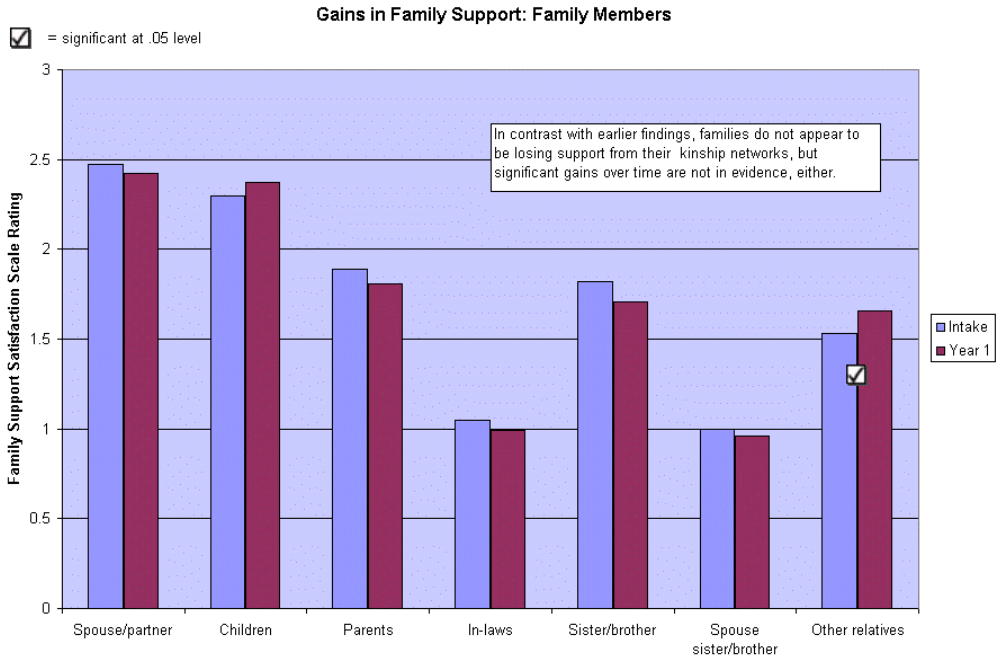
What About Placement Stability? Is It Still True That IMPACT Participation is Associated with Less Movement from Setting to Setting?

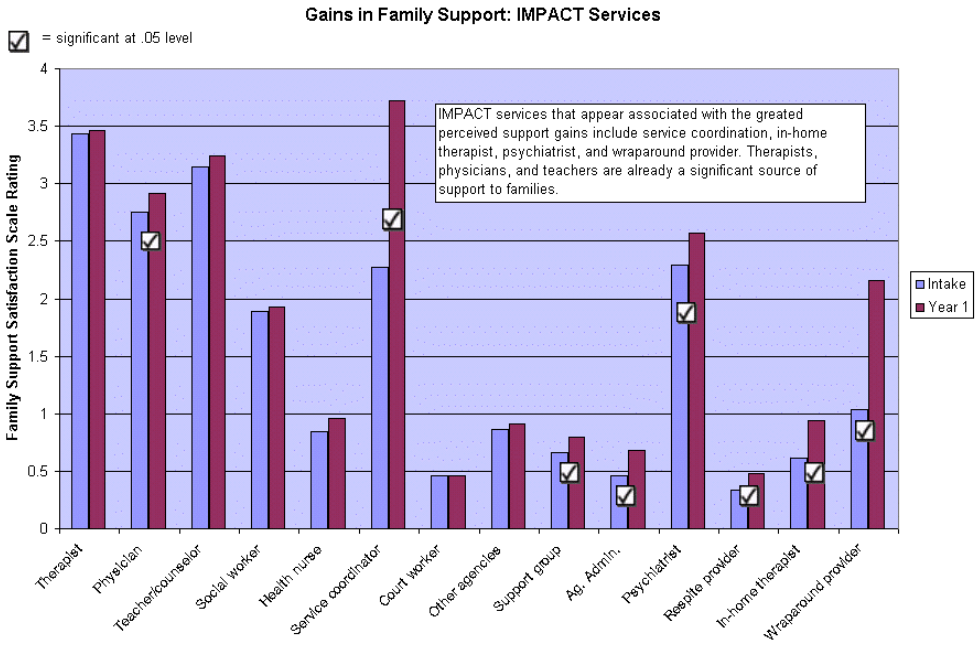
Placement stability is a crucial construct to measure because it relates to prior findings that children with serious emotional disabilities were prone to frequent placement disruptions, making effective treatment far more difficult. For the purposes of this measure, in any given year there is at least one placement. The data reflected in the chart below are average numbers of placements for four contrasting cohorts: (1) children entering just prior to IMPACT Plus; (2) children entering just after IMPACT Plus; (3) children entering in the second five years of the program; and, (4) children entering from years 1990 to 2000. It can be seen that the pattern of placement stability is consistent for all four cohorts. Similar to what was found at Year Five, Kentucky IMPACT appears to be associated with improved placement stability.



Do Families Perceive Social Support in Their Environment? What are Their Primary Sources of Social Support? Do Any of These Sources Increase or Decrease Over Time?







It has long been recognized that family social support is a crucial variable in terms of achieving, maintaining and sustaining treatment goals for children with behavioral and emotional disabilities. It has been found that families with such children tend to become more socially isolated in their communities, partly due to stigmatization but also because they become more self-isolating. This can complicate treatment and magnify problems, increasing the probability for placement disruptions. A primary goal of IMPACT is to insure that families receive adequate support from a variety of sources.

The earlier evaluation found that IMPACT-related services were associated with high levels of perceived support, but concern was raised that families were losing support from other sources in their environment. This trend appears to have been reversed in the past five years. They do not appear to be losing support from informal sources, and show some increase in support from friends. The IMPACT program continues to be a major source of support for families, however.

Reasons suggested for this changing pattern of response include that IMPACT has sponsored effort to address the problem, including training that focuses on identifying and coordinating community resources, use of a family strengths model, and facilitating earlier successful program exiting. It may also be that diminished resource availability as the program has grown (e.g., less IFBSS funding per child) resulted in less reliance on wraparound aides and service coordinators. Another factor suggested by focus groups is that the program is less crisis-driven and can utilize new resources for behavioral crises (e.g., crisis stabilization). This may result in service coordinators having more time to work with families.

Do Families Perceive That They Play an Integral Part of the Service System? Are they Enabled and Empowered by the Process?

At the time of the year five evaluation, it became clear that a weakness of the design was that it did not include a measure of parental skills and role in the service delivery system. A short-form version of the Family Empowerment Scale was implemented to fulfill this need. The scale is comprised of 12 items representing three domains: parent confidence about parenting and problem solving, parent knowledge about working within the service system; and parent advocacy for children and systems change.

Family empowerment is a central construct within the systems of care movement. By adding this outcome measure, it was hoped that providers would be even more likely to involve families in the intervention process within a strengths-based approach. Data shown above appears to confirm that IMPACT participation is associated with both parental skill development and full participation in the service delivery process.

Do Children Who Participate in Kentucky IMPACT Make Gains in School Comparable to Clinical Gains? Do Teachers Perceive Changes in Their Classroom Behavior or Social Interaction?

The Educational Status Checklist has been administered since 1995 at intake (time 1) and again each subsequent spring (times 2, 3, etc.). The analyses shown below assess change over these intervals for the version of the scale in place from 1995 through 1999. A limitation of this scale was that for some items it used a simple yes/no format to allow teachers to quickly fill out the instrument. However, this limited the ability to analyze the data, and the scale was modified to a Likert-type scale for some items (allowing for treatment as interval data). Data from 1999 to the present are summarized in descriptive form in the second section of this discussion.

Older version

Initially, a global exploratory analysis of Time 1 versus Time 2 data was accomplished, to determine if global differences were apparent, using all the data available in an independent samples (non-paired) analysis. The *n* for the Time 1 group was 3,297, and for the Time 2 group it was 2,374.

Independent Samples t-test Comparing Time 1 with Time 2 Teacher Ratings

	Time 1	Time 2	Significance (2-tail)	Direction
Classroom Performance				
Complete classwork	.46	.49	.085	Non-signif
Complete homework	.36	.34	.375	Non-signif
Attend regularly	.68	.62	.000	**Decrease**
Follow directions	.41	.42	.160	Non-signif
Obey school rules	.45	.45	.779	Non-signif
Remain on task	.28	.29	.245	Non-signif
Get to school on time	.72	.65	.000	**Decrease**
Social Performance				
Relate appropriately	.37	.36	.427	Non-signif
Have friends	.56	.54	.273	Non-signif
Participate in activities	.55	.53	.270	Non-signif
Cooperate with others	.43	.43	.928	Non-signif

As can be seen, most of these comparisons yielded no significant change over time, and the ones that did evidence a significant change showed an actual decrease. However, given the possibility that this type of global analysis could mask changes that were occurring at the individual level, paired sample analyses were employed to assess patterns of change more precisely. It should be noted that these comparisons yielded substantially lower sample sizes. Intake to Time 3 yielded an *n* of 225, whereas Time 2 to Time 3 yielded an *n* of 300.

Paired Samples t-test Comparing Time 1 with Time 3 Teacher Ratings

	Time 1	Time 3	Significance (2-tail)	Direction
Classroom Performance				
Complete classwork	.61	.47	.001	Decrease
Complete homework	.44	.36	.075	Non-signif
Attend regularly	.84	.60	.000	Decrease
Follow directions	.52	.46	.187	Non-signif
Obey school rules	.60	.49	.016	Decrease
Remain on task	.41	.30	.007	Decrease
Get to school on time	.84	.60	.000	Decrease
Social Performance				
Relate appropriately	.48	.37	.013	Decrease
Have friends	.70	.56	.001	Decrease
Participate in activities	.69	.53	.000	Decrease
Cooperate with others	.58	.45	.003	Decrease

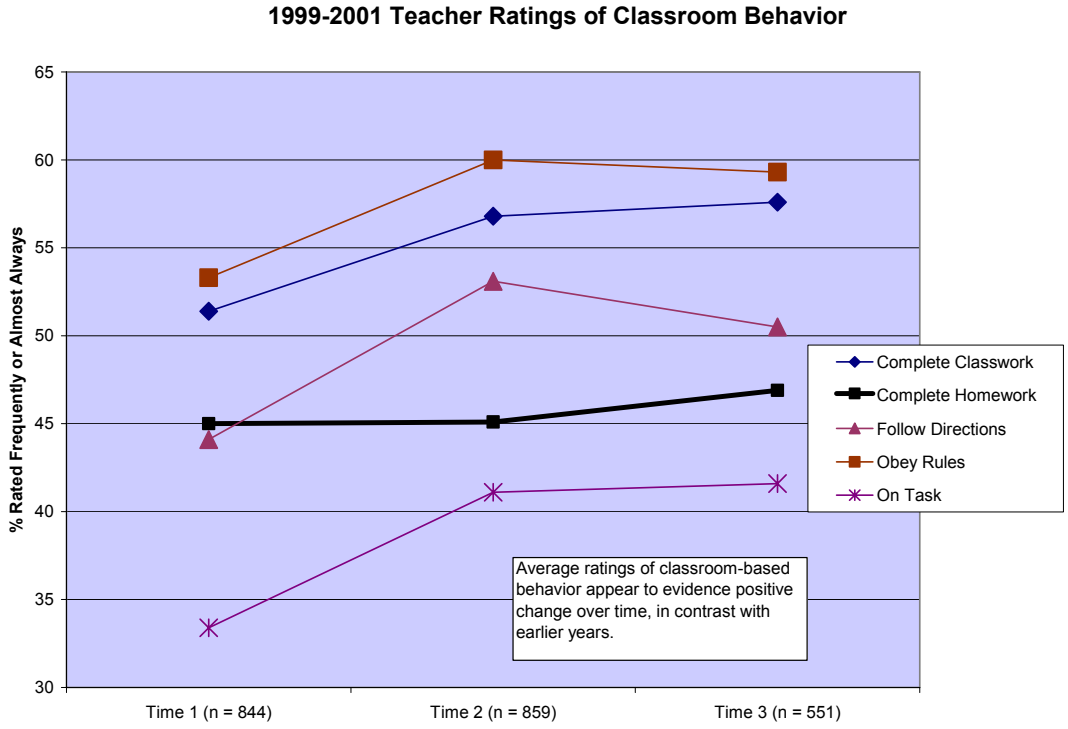
Paired Samples t-test Comparing Time 2 with Time 3 Teacher Ratings

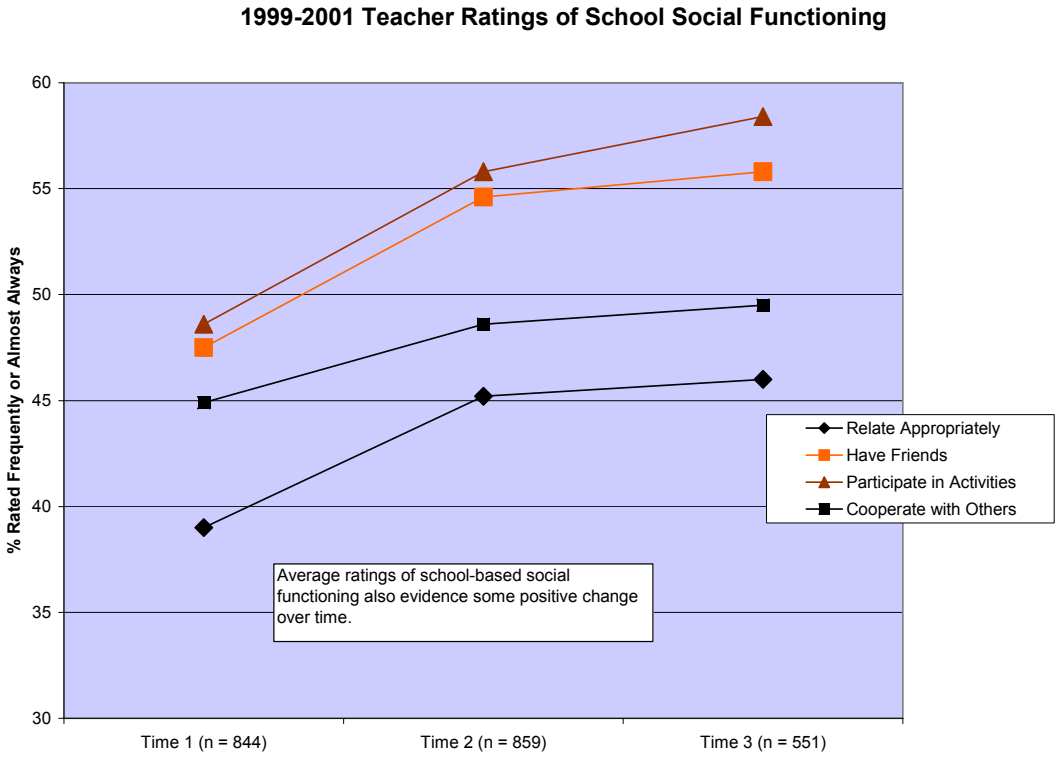
	Time 2	Time 3	Significance (2-tail)	Direction
Classroom Performance				
Complete classwork	.60	.50	.005	Decrease
Complete homework	..44	.40	.198	Non-signif
Attend regularly	.83	.63	.000	Decrease
Follow directions	.56	.49	.068	Non-signif
Obey school rules	.64	.48	.000	Decrease
Remain on task	.36	.33	.451	Non-signif
Get to school on time	.85	.66	.000	Decrease
Social Performance				
Relate appropriately	.44	.39	.141	Non-signif
Have friends	.63	.58	.120	Non-signif
Participate in activities	.69	.59	.003	Decrease
Cooperate with others	.61	.49	.001	Decrease

A review of these tables shows that data on classroom performance for the period 1995-1999 were not encouraging in terms of positive change. In general, it appears that over time teachers were less likely (or about the same) to endorse statements indicating that individual IMPACT participants were performing well or interacting appropriately in the classroom. When these data were considered as paired samples, decreases in overall ratings were even more pronounced (although this may be a function of small sample size). This finding is consistent with earlier findings that the education system was not well integrated with the IMPACT program. This trend is somewhat obviated, however, by more recent trends from 1999 onward, using the newer scale

Newer version

By creating an interval scale for the items described above, an alternative analysis is possible beginning in 1999, and these data are more encouraging. The charts below depict the percent of teachers giving high ratings regarding these same classroom and social behaviors at Time 1, Time 2, and Time 3. As can be seen, the trend lines are generally positive over time.

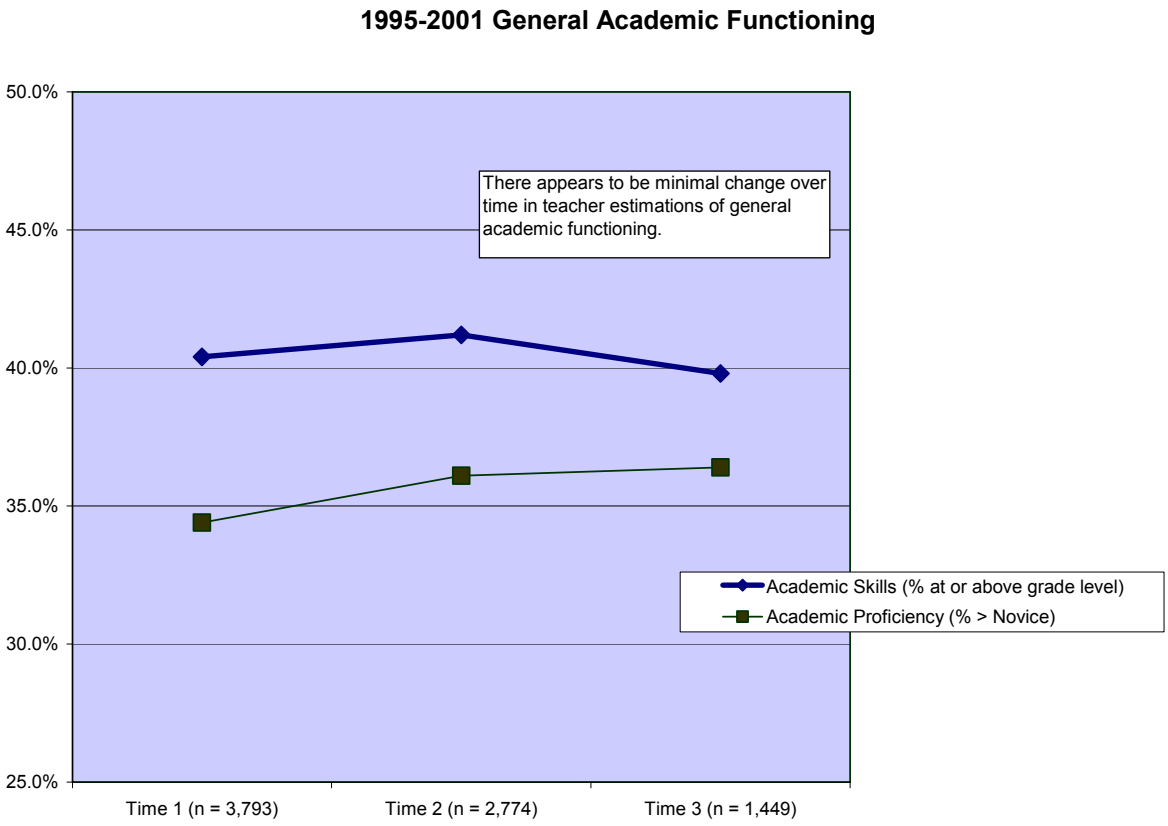




While these findings are encouraging, they may be somewhat skewed by virtue of not reflecting individual change scores (paired analysis).

General academic functioning

Both the earlier and newer version of the educational status checklist asked teachers to rate aspects of the student's overall academic performance. One item asked them to indicate whether the student was presently performing below, at, or above grade level academically. A second item asked them to categorize the student in terms of the KERA academic proficiency levels (novice, apprentice, proficient, distinguished). A comparison of these ratings over time (from 1995 through 2001 is shown below.

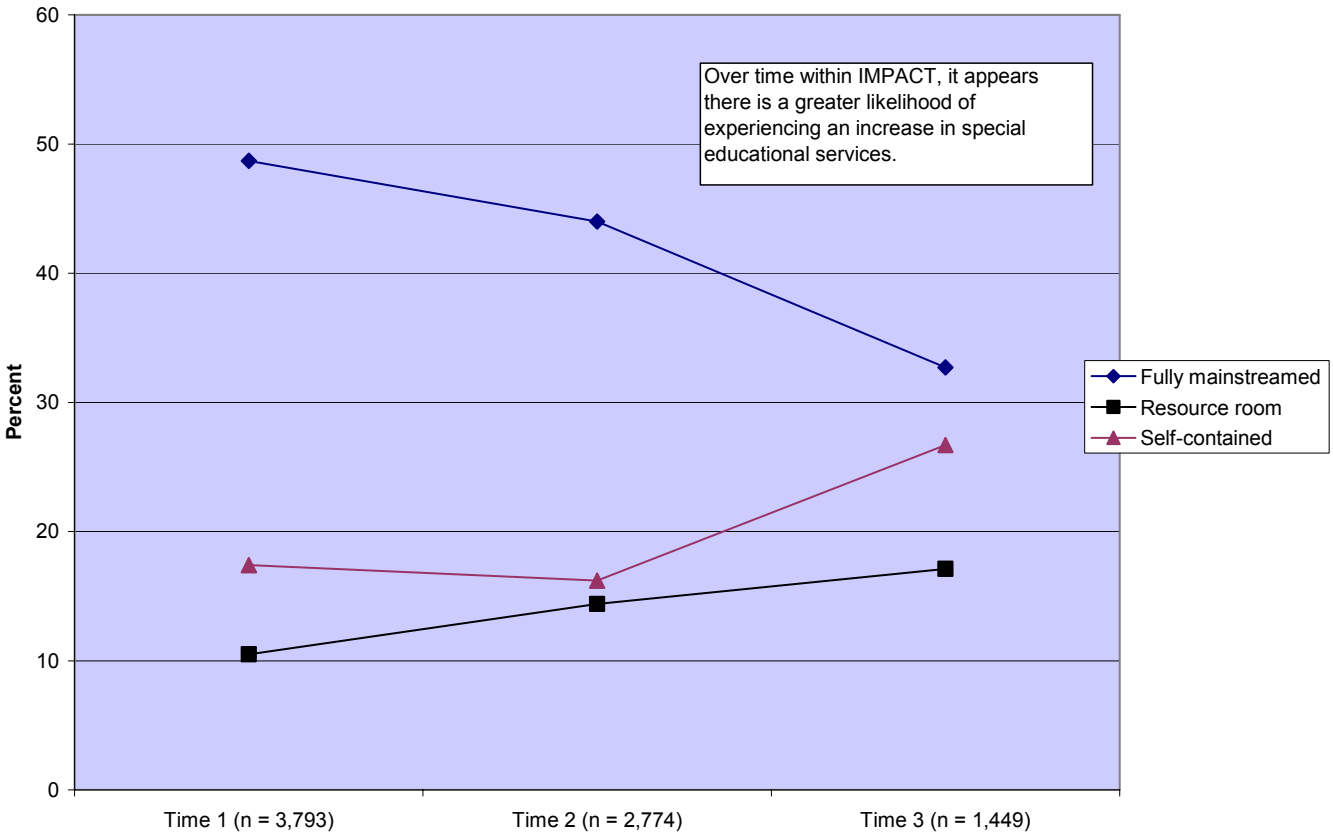


In general, there does not seem to be much change, although it should also be noted that these are highly global categorizations and therefore not as sensitive to change in the short-term.

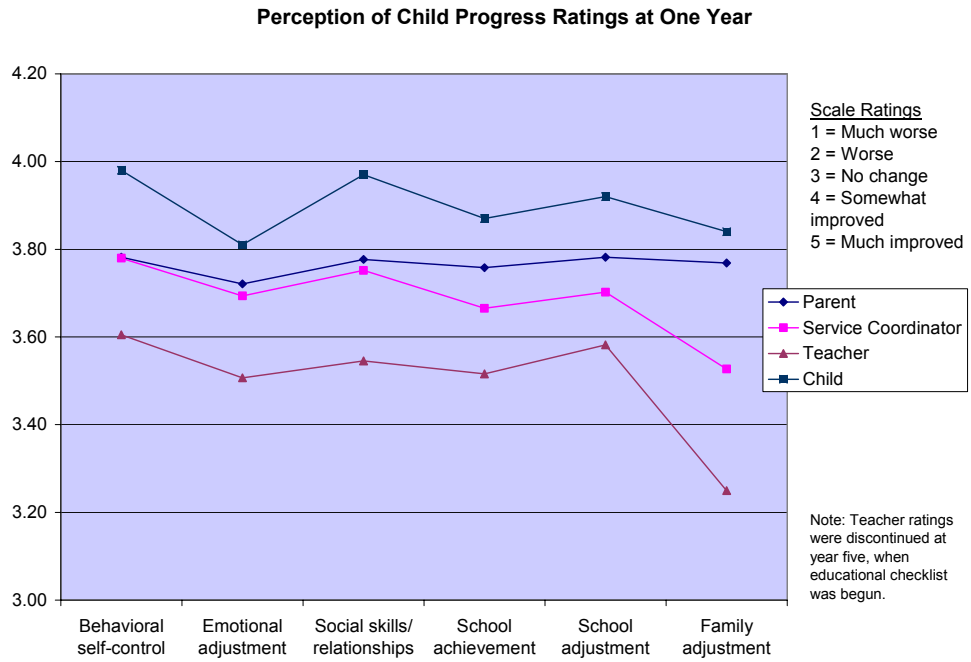
Educational placement

Another item on the scale asked teachers to indicate the child's current educational placement, and these data are especially instructive. It appears that over time, IMPACT participants are less likely to be fully mainstreamed and more likely to receive services in resource or self-contained settings. This may be a result of increased planning and advocacy on behalf of children in the IMPACT program.

1995-2001 Teacher-Reported Educational Placement



Do These Generally Positive Outcome Findings Appear to Have Social Validity? That Is, Do People Involved with the Intervention Perceive that Meaningful and Sustained Change Has Occurred?



Child progress ratings in six areas are obtained at one year and at exit by parents, children, and service coordinators. Teachers completed the form through 1995. Given that the anchor point of the rating system is 3 (no change), and that all of the above rating averages are substantially higher than 3, it appears that there is general consensus among key players that child improvement has occurred. Children and parents perceive the greatest amount of improvement, followed by service coordinators, and then teachers (who perceive the least improvement in the area of family adjustment). Taken in combination with other outcome data, these findings provide a degree of confirmatory evidence of meaningful, positive change for program participants. In a sense, they are also a measure of participant satisfaction with the program, a finding also suggested by the social support data.

Summary

- There is strong evidence that participation in Kentucky IMPACT continues to be associated with large reductions in behavior problems, despite emerging data that the severity of measured behavior problem scores on the CBCL at intake has declined. Some of these gains are probably attributable to statistical regression, but the magnitude of gain argues for interpreting these as primary evidence that IMPACT continues to achieve its central goal.
- There is emerging evidence that participation in Kentucky IMPACT is associated with social competence gains. These gains may be partly attributable to concerted effort within the program to foster social competence through wraparound, after-school activities, and summer programming.
- Over time within Kentucky IMPACT, children are less likely to be placed in residential treatment or psychiatric hospitals, more likely to live with their parents, but also more likely to be placed in regular or therapeutic foster care.
- Similar to what was shown at year five, children served by Kentucky IMPACT appear to experience improved placement stability.
- In contrast with the earlier evaluation, families do not appear to be losing support from informal sources, and in fact show some slight increase in support from friendship networks. The IMPACT program continues to be a major source of support for families, however.
- IMPACT participation appears to be associated with both parental skill development and full participation in the service delivery process, consistent with a family-centered practice model.
- Global teacher ratings do not show significant changes in perception of overall educational achievement. Classroom performance and social interaction show little evidence of improvement in 1995-1999 data, but more recent trend lines are encouraging.
- The overall percent of IMPACT participants receiving a fully mainstreamed program (no special education services) declines in relation to time within the program, corresponding to an increase in both resource and self-contained placements.
- It appears that there is general consensus among participants that child improvement has occurred. Children and parents perceive the greatest amount of improvement, followed by service coordinators, and then teachers (who perceive the least improvement in the area of family adjustment).

Section

4

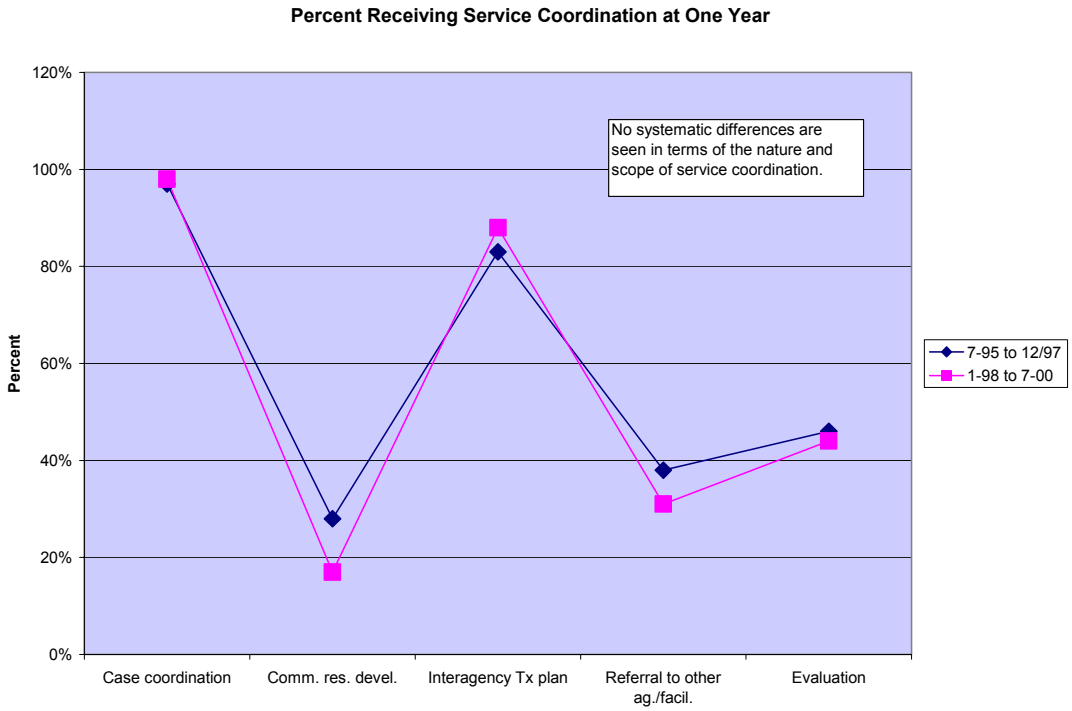
The Impact of IMPACT Plus: Comparison of Two Cohorts

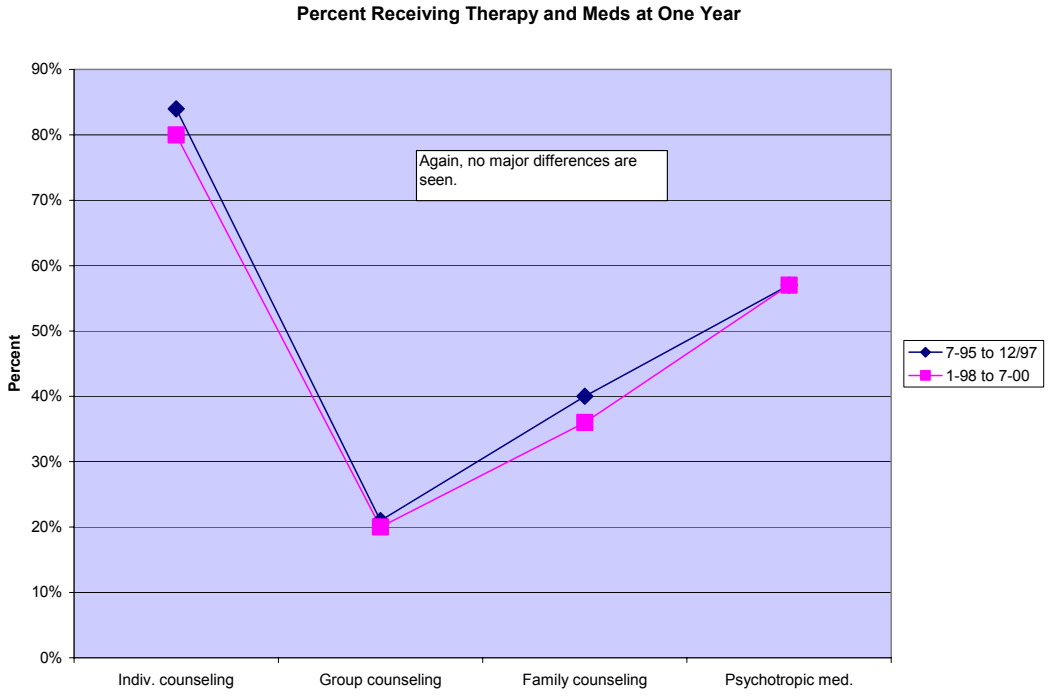
Based on trend data suggesting demographic and service delivery changes coincident with the initiation of IMPACT Plus, an analysis was conducted on selected aspects of the IMPACT system of care to explore whether these changes had implications for program operation and outcomes. Children enrolled in IMPACT during the thirty months prior to IMPACT Plus were compared to those enrolled in the thirty months following program initiation. A number of interesting patterns emerged.

IMPACT Plus is a collaborative effort of the Departments for Medicaid Services, Community Based Services and Mental Health and Mental Retardation Services. Initiated in early 1998, the program is designed to help provide community-based services for Kentucky's Medicaid/KCHIP eligible children with complex treatment needs. Modeled after on the Kentucky IMPACT model of interagency collaboration and service coordination, IMPACT Plus extends the service system to a greater number of children, and makes additional resources available to some children already served by IMPACT. Both programs target for service those children who are most in need and every child accepted for service receives service coordination (i.e. children's case management). However, all IMPACT Plus certified children must be Medicaid

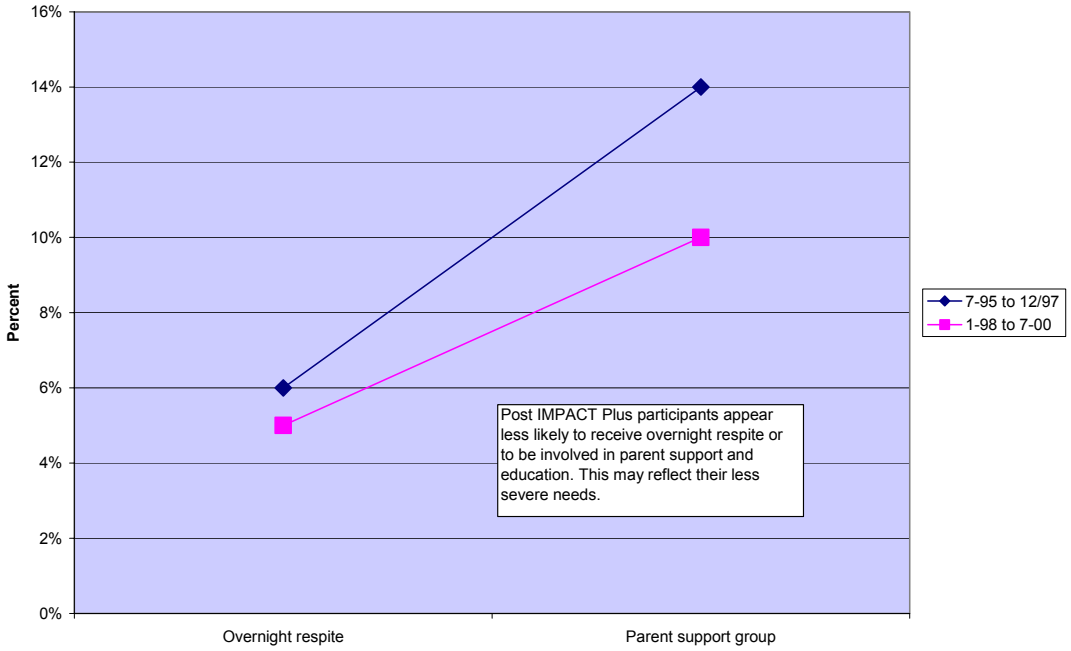
eligible and the program is administered by a managed care company (Healthcare Review Corporation).

Patterns of Service Delivery

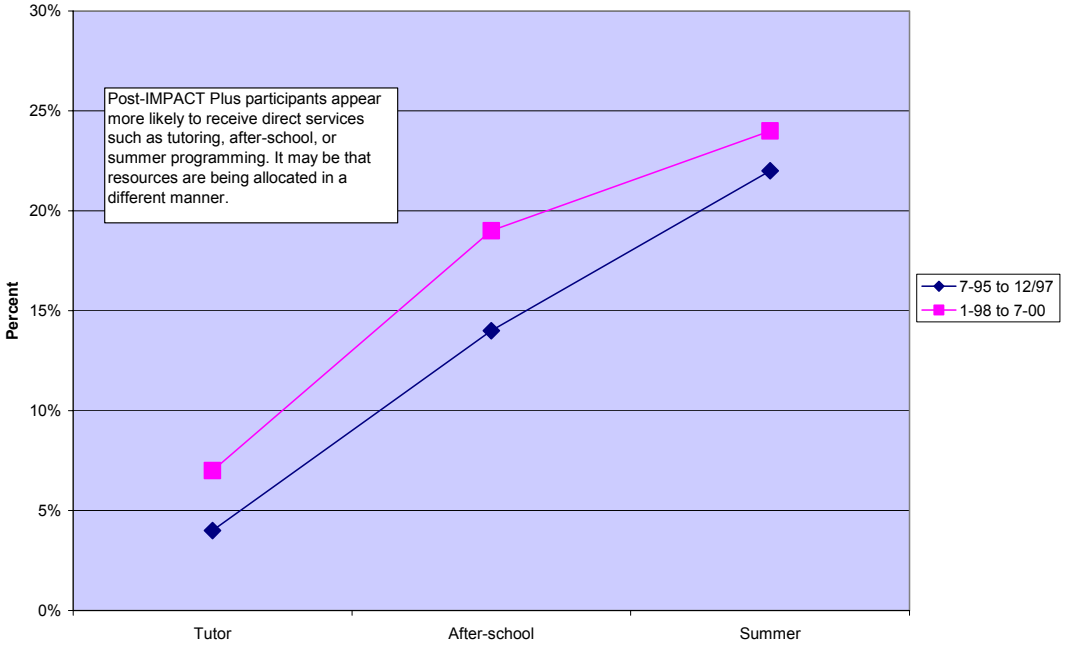




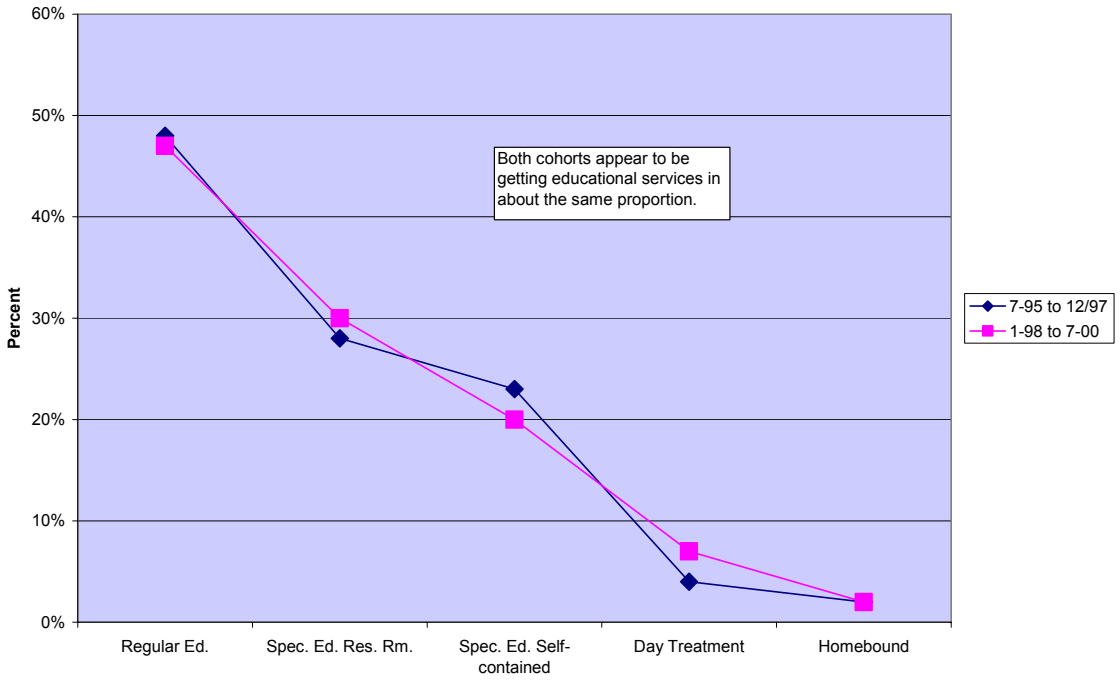
Percent Receiving Family Support Services at One Year



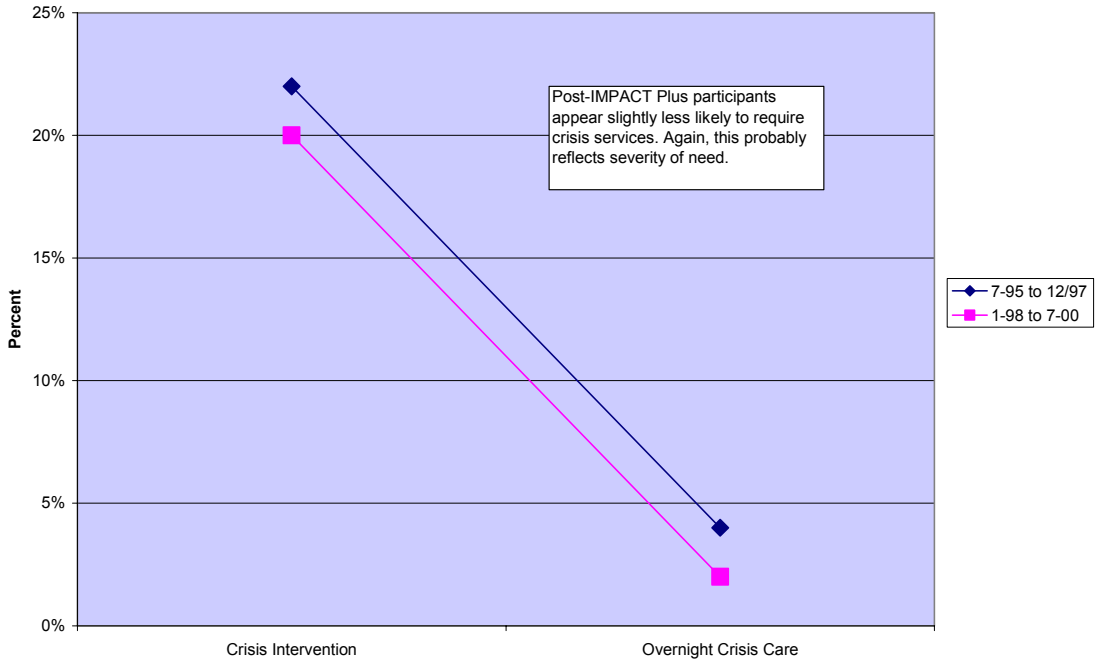
Percent Receiving Direct Services at One Year

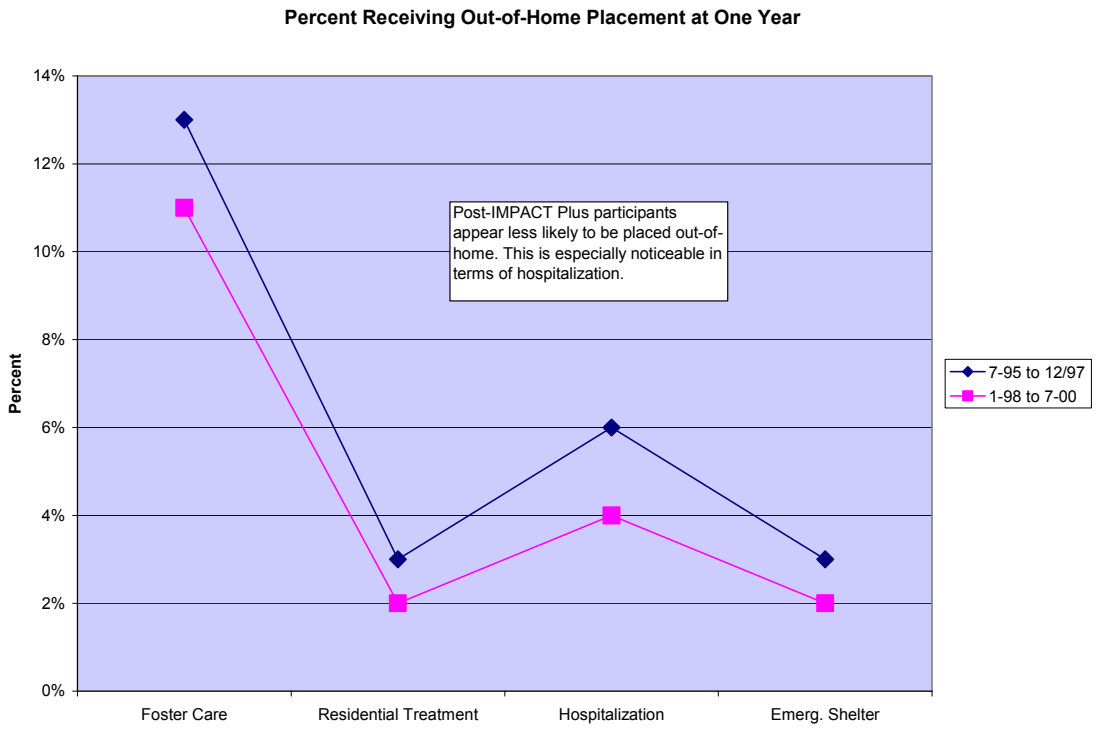


Percent Receiving Educational Services at One Year



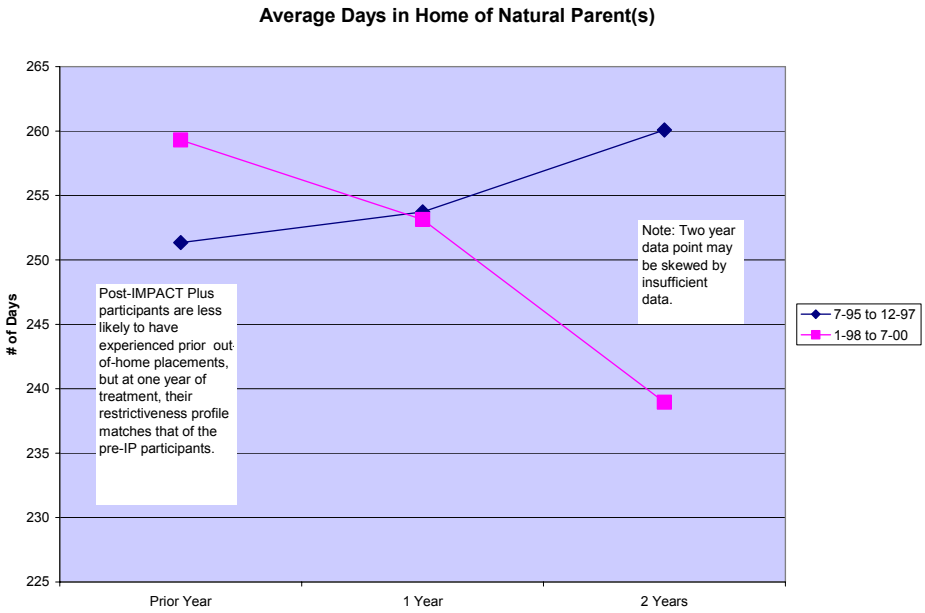
Percent Receiving Crisis Services at One Year

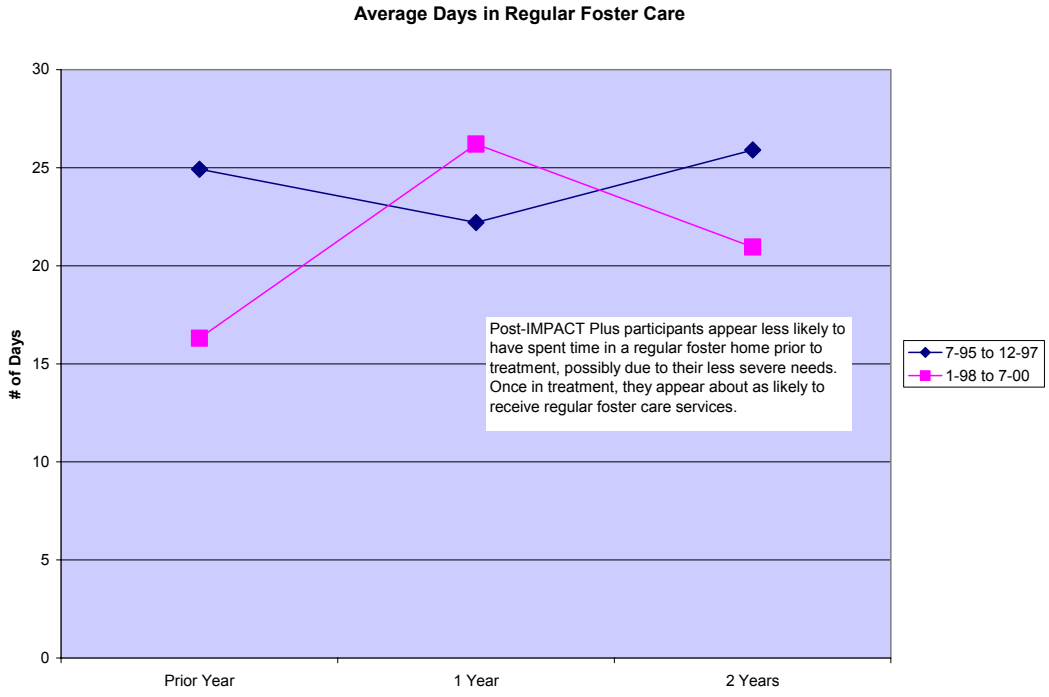




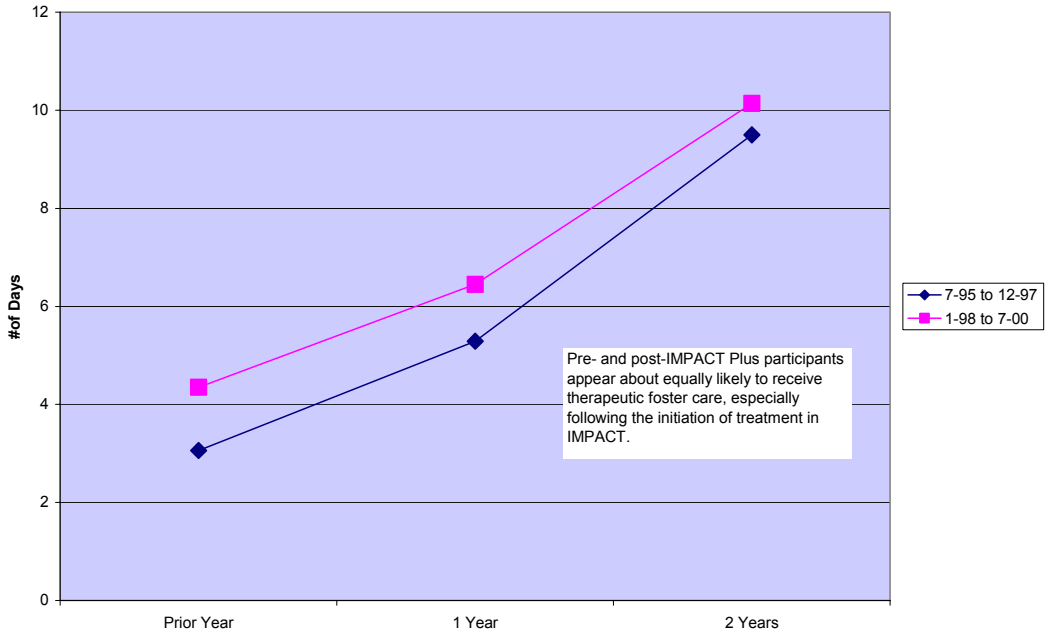
In general, there appear to be few large differences in terms of service delivery patterns between children who enter IMPACT prior to January, 1998 and those who enter subsequently. However, some interesting changes in these patterns are apparent for post-IMPACT Plus participants, and these may be instructive in regard to the evolution of IMPACT. For example, these participants are less likely to receive overnight respite and crisis services. This may be a function of changing demographics as a result of IMPACT Plus serving some of the youth previously served by IMPACT. At the same time, it appears direct services such as after-school and summer programming are more extensively used, and this may reflect both the needs of the population and policy changes with regard to resource allocation. Certainly, it is encouraging that post-IMPACT Plus entrants are less likely to be placed out of home. It should be remembered that some of these differences are slight, and based on a relatively limited time period, so generalizations about these patterns need to be cautious.

Restrictiveness

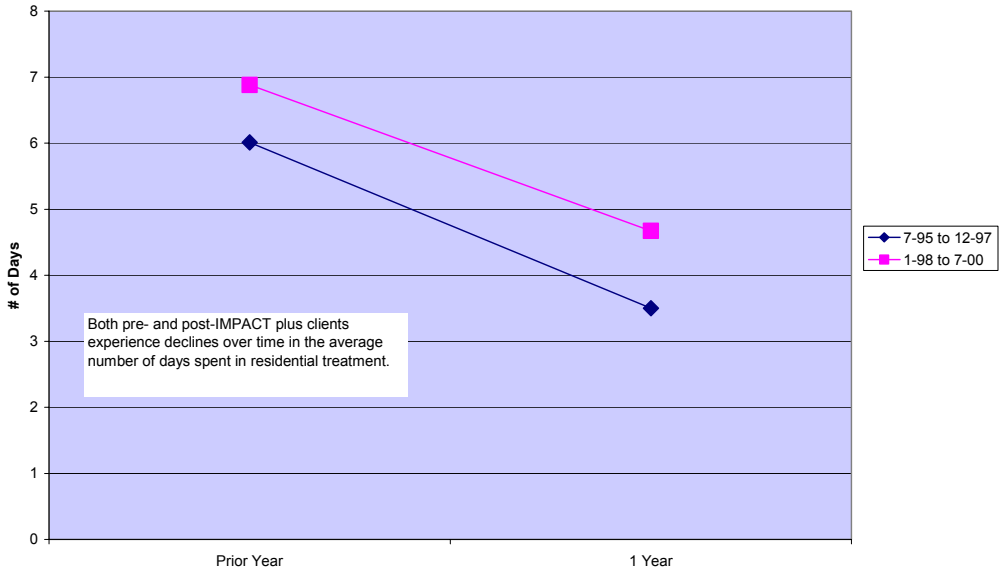


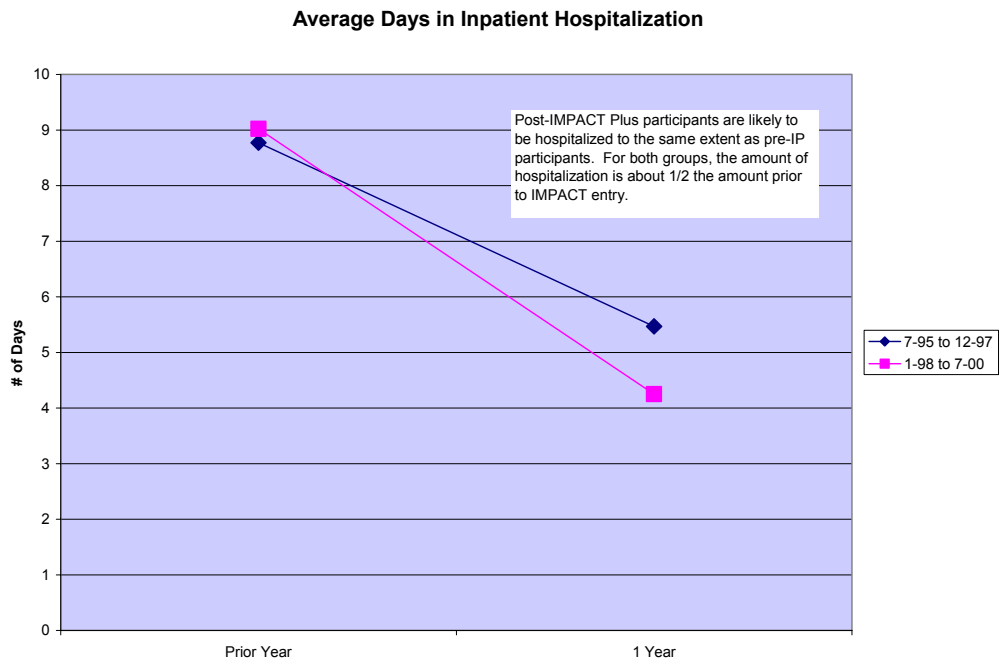


Average Days in Therapeutic Foster Care



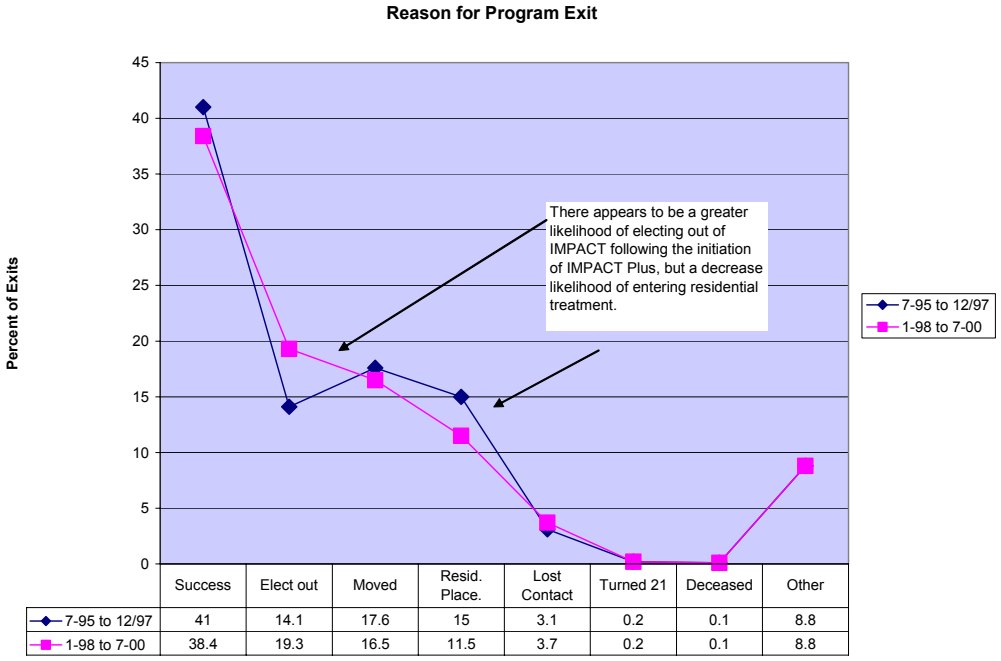
Average Days in Residential Treatment
(DSS, Drug/Alcohol, Out-of-State, PRTF)



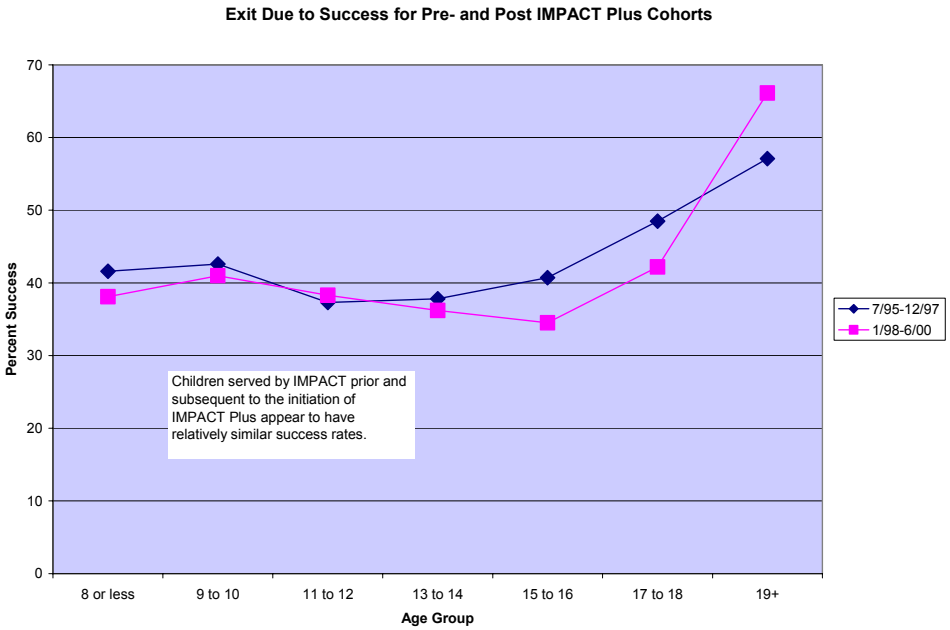


These data are a bit more difficult to interpret. In general, it appears that post-IMPACT Plus entrants into IMPACT are less likely to have been hospitalized or placed out of home (e.g., foster care, residential treatment) in the year prior to program entry. This may indicate something about severity of need, implying that some of the more severe or needy children are being dealt with differently, either by IMPACT Plus or by some other program mechanism. Notably, upon entry, it appears that both groups (cohorts) evidence similar patterns. That is, they are about equally likely to be placed out of home. This seems consistent with the idea that IMPACT serves a triage or sorting function in terms of making determinations over time as to what level of care a particular child requires.

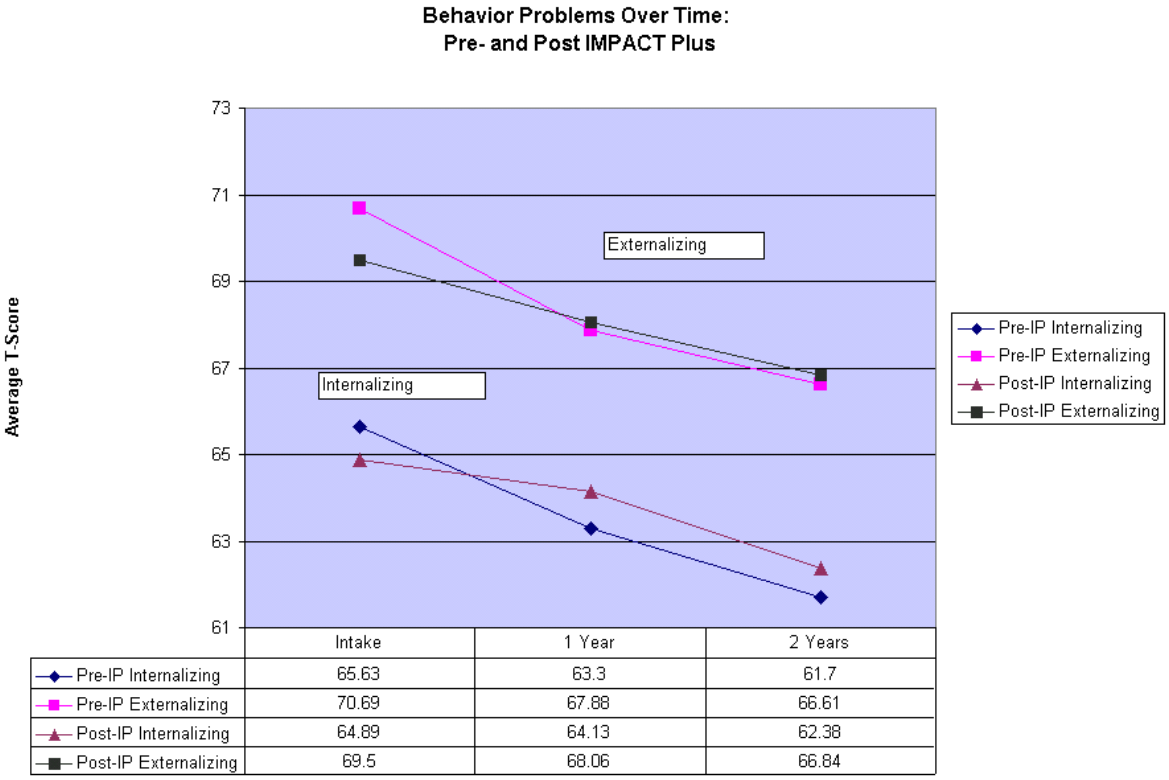
Exiting Patterns



	Success	Elect out	Moved	Resid. Place.	Lost Contact	Turned 21	Deceased	Other
7-95 to 12/97	41	14.1	17.6	15	3.1	0.2	0.1	8.8
1-98 to 7-00	38.4	19.3	16.5	11.5	3.7	0.2	0.1	8.8



Behavior Problems



	Intake	1 Year	2 Years
Pre-IP Internalizing	65.63	63.3	61.7
Pre-IP Externalizing	70.69	67.88	66.61
Post-IP Internalizing	64.89	64.13	62.38
Post-IP Externalizing	69.5	68.06	66.84

For both internalizing and externalizing behavior, post-IP intake means are lower, indicating a lesser degree of perceived "psychopathology" at program entry. The difference is somewhat larger for externalizing behavior, but the differences appear to narrow over time. That is, both groups appear to make significant progress within their first two years in IMPACT.

Social Competence

	Intake	1 Year	2 Years
Pre-IP Activity T	36.45	39.16	38.97
Pre-IP School T	28.7	31.55	31.96
Pre-IP Social T	26.2	27.15	27.14
Post-IP Activity T	38.75	39.88	39.34
Post-IP School T	31.17	32.98	33.57
Post-IP Social T	28.74	30.24	29.74

Similar to what was seen in behavior, all six of the social competence means for the post-IMPACT Plus cohort are higher than the corresponding means for pre-IMPACT Plus entrants. Again, this seems to reflect changes in the demographic complexion of the IMPACT program.

Summary

- In general, there appear to be few large differences in terms of service delivery patterns between children who enter IMPACT prior to January, 1998 (pre-IMPACT Plus) and those who enter subsequently (post-IMPACT Plus).

- Interesting (but relatively small) changes in service delivery patterns of post-IMPACT Plus participants may be instructive in regard to the evolution of IMPACT. They are less likely to receive overnight respite and crisis services, but more likely to receive direct services such as after-school and summer programming.

- Once in the IMPACT program, both cohorts are about equally likely to be placed out of home, and overall rates of placement in residential treatment and hospitalization decline for both groups.

- Both cohorts experience similar patterns of exiting, including rates of successful program completion.

- For both internalizing and externalizing behavior, post-IP intake means are lower, indicating a lesser degree of perceived "psychopathology" at program entry. The difference is somewhat larger for externalizing behavior, but the differences appear to narrow over time. Both groups appear to make significant progress within their first two years in IMPACT.

- All six of the social competence means for the post-IMPACT Plus cohort are higher than the corresponding means for pre-IMPACT Plus entrants.

- These patterns may be indicative of subtle changes in the demographic complexion of the IMPACT program, as well as how the program is evolving at the level of service delivery.

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